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# Mass and Elite Views on Nuclear Security

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U.S. National  
Security Surveys  
1993–1999

## Volume II: Policy Elites

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September 2000

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<sup>1</sup> Brief notations about the professional associations and qualifications of each participant are provided in Chapter One.

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## **Volume II: Policy Elites**

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### **Abstract**

As the first decade of the post-Cold War era comes to a close, policy makers and citizens can take stock of the lessons learned and continuing uncertainties that characterize this new international security environment. In this volume we provide a resource for “taking stock” through analyzing the results of in-depth interviews with fifty members of the US security policy community conducted between June 3, 1999 and March 1, 2000. Participants were chosen for their expertise in nuclear security policy and to illuminate a wide range of relevant policy perspectives. This is Volume II of the fourth report in an ongoing series of studies begun in 1993 to examine how mass and elite perspectives about nuclear security are evolving in the post-Cold War era.

Areas of investigation in this volume include elite perceptions of the following: (a) key attributes and implications of the contemporary international security environment; (b) the evolving nature and requirements of nuclear security; (c) nuclear arms control; (d) US nuclear force structure, posture, and infrastructure; (d) missile defenses; (e) integrated beliefs about nuclear security; and (f) the role of the US general public in security policy processes.

Qualitative cross-sectional analysis of verbatim transcripts of the fifty interviews provides comparisons of the views of these policy elites in their own words. We employ cluster analysis to identify four groups of respondents exhibiting similar within group views about nuclear security and large differences in policy perspectives between groups. We compare these patterns to the results of cluster analysis of a national sample of the US general public.

In Volume I we present findings from a nationwide telephone survey of randomly selected members of the US general public conducted from September 13 to October 14, 1999. To analyze trends, we compare results to findings from previous surveys in this series conducted in 1993, 1995, and 1997.

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## Volume II: Executive Guide for the Reader

This is the second volume of a two-volume report summarizing findings from an ongoing research project to study mass and elite views about nuclear security in the post-Cold War environment. This Executive Guide provides an overview of topics by chapter and a quick reference to key points of interest for the reader.

In Volume I of the report, we analyze results from a nationwide survey of the general public conducted between September 13 and October 14, 1999. We compare findings with those from three previous surveys of the general public conducted in 1993, 1995, and 1997. In Volume II we comparatively analyze views about nuclear security expressed during in-depth interviews with fifty members of the US security policy community between June 3, 1999 and March 1, 2000. The following table outlines our ongoing study series.

	PHASE I	PHASE II	PHASE III	PHASE IV
<b>COLLECTION PERIODS</b>	June 1993– March 1994	September– November 1995	June– November 1997	Survey: September– October 1999 Interviews: June 1999– March 2000
<b>RESPONDENT GROUPS</b>	<ul style="list-style-type: none"> <li>• General Public: <i>N = 1,301</i></li> <li>• Union of Con- cerned Scientists: <i>N = 1,155</i></li> <li>• US National Labs: <i>N = 1,226</i></li> </ul>	<ul style="list-style-type: none"> <li>• General Public: <i>N = 2,490</i></li> </ul>	<ul style="list-style-type: none"> <li>• General Public: <i>N = 1,639</i></li> <li>• American Men &amp; Women of Science: <i>N = 1,212</i></li> <li>• State Legislators: <i>N = 603</i></li> </ul>	<ul style="list-style-type: none"> <li>• General Public: <i>N = 1,483</i></li> <li>• Policy Elites: <i>N = 50</i></li> </ul>
<b>COLLECTION METHODS</b>	<ul style="list-style-type: none"> <li>• General Public: <i>Telephone</i></li> <li>• Union of Con- cerned Scientists: <i>Mail</i></li> <li>• US National Labs: <i>Mail</i></li> </ul>	<ul style="list-style-type: none"> <li>• General Public: <i>Telephone</i></li> </ul>	<ul style="list-style-type: none"> <li>• General Public: <i>Telephone</i></li> <li>• American Men &amp; Women of Science: <i>Mail</i></li> <li>• State Legislators: <i>Mail</i></li> </ul>	<ul style="list-style-type: none"> <li>• General Public: <i>Telephone</i></li> <li>• Policy Elites: <i>Face-to-face</i> <i>interviews</i></li> </ul>
<b>KEY LINES OF INVESTIGATION</b>	<ul style="list-style-type: none"> <li>• Nuclear security</li> <li>• Philosophical approaches to science and research</li> </ul>	<ul style="list-style-type: none"> <li>• Nuclear security</li> <li>• US/Russian nu- clear cooperation</li> <li>• Personal security</li> </ul>	<ul style="list-style-type: none"> <li>• Nuclear security</li> <li>• US/Russian nu- clear cooperation</li> <li>• Critical infrastruc- tures</li> <li>• Science policy</li> </ul>	<ul style="list-style-type: none"> <li>• Nuclear security</li> <li>• Precision guided munitions</li> <li>• Response options</li> <li>• National missile defenses</li> </ul>

## **Chapter One: Introduction and Overview**

**Project Goal** (p. 1): The goal of this project is to measure and better understand the evolution of public and elite attitudes about security in the post-Cold War era, with a special emphasis on how views about nuclear security are changing.

**Conceptual Approach** (p. 2): Our approach incorporates the following: (a) trend analysis of general public views about nuclear security (Volume I); (b) data from new questions about precision guided munitions, response to mass casualty terrorism, and national missile defenses (Volume I); and (c) qualitative analysis of in-depth interviews with members of the US security policy community (Volume II).

**Analytic Model** (p. 3): We provide a model of the analytical framework used to help identify areas of investigation, hypothesize relationships among key variables, and design the survey questionnaire and interview outline.

**Research Design** (p. 5): We describe the integration of the qualitative research methods used in Volume II with the quantitative methods employed in Volume I. Also we discuss the purposive sampling methods used to identify the fifty policy elites we interviewed.

**Data Collection** (p. 6): We identify the individuals who participated in our in-depth interviews and provide brief comments about their qualifications.

**Data Analysis** (p. 12): We describe how the interview data were coded, and we discuss the organizing principles used in structuring the qualitative analysis. Also we discuss the cluster analysis technique used to group elites for inter-group analysis and for comparing elite groups to public groups.

**Organization of Volume II** (p. 17): We provide a brief overview of each of the chapters and appendices in Volume II.

## **Chapter Two: International Security Environment**

**Characterizing Today's Security Environment** (p. 20): Respondents identify the defining attributes of today's international security environment.



Two of the characteristics discussed are (a) the absence of great power and associated alliance rivalry, and (b) the absence of a system-wide organizing principle around which international security can be structured.

**Implications for Managing Security** (p. 23): Participants assess some of the key implications of today's security environment for national and international security. Key topics include the following: (a) how international security and US national security have changed since the end of the Cold War; (b) evolving international norms; (c) concerns about the potential for balancing actions to counter US influence; (d) the rise of asymmetric threats; and (e) predictions about future implications.

**Assessing Russia** (p. 29): Respondents discuss the changing nature of threats to US and international security deriving from Russian nuclear capabilities and limitations, and they assess US policy towards Russia.

**Assessing China** (p. 34): Participants assess current and projected security challenges associated with China. Perspectives are organized into those more optimistic about China's potential role and those more cautious about the implications for US security.

**Nuclear Proliferation** (p. 39): The likelihood and implications of further nuclear proliferation are discussed, to include (a) motivations for nuclear proliferation, (b) the outlook for future proliferation, and (c) nonproliferation policies.

**Mass Casualty Terrorism** (p. 46): Respondents assess the following: (a) the threat of mass terrorism in which biological or chemical weapons are used; (b) the implications of technology diffusion for terrorism; and (c) what should be done to meet the threat of mass casualty terrorism.

**Characterizing Group Views About the Security Environment** (p. 53): Employing cluster analysis to identify four groups of respondents characterized by highly differentiated intergroup views and similar intragroup perspectives, we compare and contrast the views of each of the four elite groups regarding the international security environment.

## Chapter Three: Evolving Nature of Nuclear Security

**Risks and Benefits of Nuclear Weapons** (p. 59): We summarize participants' views about the risks and benefits associated with US nuclear weapons and how respondents weigh associated tradeoffs.

**Nuclear Deterrence and the Cold War** (p. 63): In this section we contrast elite perspectives about the role of nuclear deterrence during the Cold War.

**Nuclear Deterrence Today** (p. 67): Discussants compare the role of nuclear deterrence during the Cold War with that perceived to exist in the current security environment and discuss the efficacy of nuclear deterrence today.

**The Future Efficacy of Nuclear Deterrence** (p. 73): Respondents present their assessments of the future efficacy of nuclear deterrence.

**Extended Nuclear Deterrence** (p. 76): Participants discuss the extended deterrence concept and its role in the post-Cold War security environment, to include its relationship to nuclear proliferation.

**Existential Nuclear Deterrence** (p. 80): We present evolving interpretations of existential nuclear deterrence, and our respondents discuss the validity of the concept and its implications for future policy.

**Deterring Biological and Chemical Attacks** (p. 84): We present respondents' arguments for and against attempting to use US nuclear weapons to deter other mass casualty weapons, and we summarize their views about the advantages and disadvantages of overtly declaring such a policy.

**The Role of Precision Guided Munitions** (p. 96): Participants discuss the substitutability of conventionally armed PGMs for nuclear weapons for denial missions and for deterrence.

**Characterizing Group Views About the Evolving Nature of Nuclear Security** (p. 104): We compare and contrast in summary form the views of our four groups of experts about how nuclear security is evolving.

## **Chapter Four: Nuclear Arms Control**

**Viability of Strategic Arms Control** (p. 109): Participants evaluate the continued viability of formal arms control processes and discuss the utility of START I and START II.

**Views About Unilateral Nuclear Initiatives** (p. 116): Respondents assess the utility of unilateral initiatives for reducing nuclear forces and alert postures, and they compare the advantages and disadvantages of unilateral reductions to those associated with formal arms control processes.

**Shape of START III** (p. 119): Discussants present their views about the objectives for START III negotiations, to include (a) the need to focus on limiting warheads rather than delivery vehicles, and (b) the relationship between deep reductions and improved transparency and verification.

**Transparency and Verification** (p. 122): We provide further discussion of transparency and verification issues in light of previous experience with negotiated agreements between the US and the USSR/Russia.

**Future Arms Control Directions** (p. 124): Respondents assess requirements for the long-term future of nuclear arms control, to include (a) transitioning from bilateral processes to multilateral processes, and (b) including nonstrategic nuclear forces.

**Views About the CTBT** (p. 127): Senate rejection of the CTBT occurred during the course of our interviews, and in this section we present a discussion of the following: (a) the advantages and disadvantages of the CTBT; (b) its relationship to nonproliferation and other international norms; (c) treaty verification; (d) implications of the CTBT for the US nuclear arsenal; and (e) the outlook for the CTBT.

**Characterizing Group Views About Nuclear Arms Control** (p. 138): We summarize the views of our four groups about the role of nuclear arms control.

## **Chapter Five: Nuclear Forces and Infrastructure**

**US Nuclear Force Structure** (p. 143): We present an extensive range of views about sizing and structuring US nuclear forces, to include the following: (a) traditional rationale for, and changing relevance of, the number of nuclear weapons; (b) sizing considerations for the future; and (c) the need for tailoring nuclear capabilities to meet new threats.

**US Nuclear Force Posture** (p. 157): Discussants assess the viability of the triad basing concept and present considerations for future basing options. Also they discuss the pros and cons of de-alerting concepts.

**US Nuclear Infrastructure** (p. 172): In this section, participants discuss nuclear infrastructure requirements and how they relate to nuclear security. Also they discuss stockpile stewardship and provide their views about future infrastructure considerations.

**Characterizing Group Views About US Nuclear Forces and Infrastructure** (p. 184): We compare group perspectives about nuclear force structure, posture, and infrastructure.

## **Chapter Six: Missile Defenses**

**Perspectives on the Ballistic Missile Threat** (p. 189): We present contrasting perspectives about the threat to the US posed by long-range ballistic missiles.

**Perspectives on Theater Missile Defenses** (p. 192): Participants discuss the need for theater missile defenses and how they relate to the debate over national missile defenses.

**National Missile Defense and Nuclear Deterrence** (p. 194): Discussants assess the degree to which strategic deterrence is sufficient to protect against ballistic missile attacks in the absence of missile defenses.

**Relationship Between Offensive and Defensive Forces** (p. 196): In this section, respondents discuss the implications of national missile defenses for

arms reductions prospects and the need for considering the relationship between strategic offensive and defensive forces.

**Effectiveness of National Missile Defenses (p. 199):** We contrast views about the likelihood that national missile defenses will be effective.

**Implications for the ABM Treaty (p. 201):** Discussants assess implications of national missile defenses for continued viability of the ABM Treaty.

**Responses to Deploying National Missile Defenses (p. 203):** Participants discuss the potential for an offense–defense spiral and speculate on potential reactions from Russia and China if the US deploys national missile defenses.

**Characterizing Group Views About Missile Defenses (p. 205):** We compare the views of our four groups about the prospects for and implications of deploying US ballistic missile defenses.

## **Chapter Seven: Beliefs About Nuclear Security**

**Conceptualizing Nuclear Abolition (p. 209):** In this section we provide an extensive discussion of participants' views about the desirability and feasibility of eliminating all nuclear weapons worldwide.

**Reconciling Nuclear Weapons and US Values (p. 225):** Respondents provide their views about whether nuclear weapons are compatible with US principles and values such as freedom, democracy, individual rights, and justice.

**Justifying the Employment of Nuclear Weapons (p. 230):** Participants discuss whether or not and under what circumstances they could justify using US nuclear weapons to attack an adversary.

**Characterizing Group Beliefs Regarding Nuclear Security (p. 235):** We contrast the beliefs of our participants about nuclear security according to group identity.

## **Chapter Eight: Elite Views of the Public and Nuclear Security**

**Traditional Role of the Public in Nuclear Security Policy** (p. 240): In this section we summarize respondents' perspectives about the traditional role of the US general public in nuclear security, and the policy relationships between the general public, interest groups, policy elites, and the news media.

**Public Capacity to Understand and Participate** (p. 252): Participants discuss their views about the capacity for the US general public to understand nuclear security issues and policy options and to effectively participate in nuclear security policy processes.

**Elite Preferences About the Role of the General Public** (p. 256): We contrast respondents' preferences for populist and delegated forms of public participation in the evolution of US nuclear security policies.

**Characterizing Group Views About the Public and Nuclear Security** (p. 261): We compare the views among our four groups about public participation in nuclear security policy.

## **Chapter Nine: Comparing Mass and Elite Perspectives**

**Comparing Expectations About Publics** (p. 265): We examine common expectations about the capacities and roles of elite and mass publics in nuclear security policy processes.

**Characterizing Mass and Elite Views** (p. 267): Based on our cluster analysis of the general public (described in Volume I) and of the fifty policy elites who participated in our personal interviews, we summarize and compare overall group views and characteristics.

**Relating Patterns Among Mass and Elite Publics** (p. 272): We identify and discuss relationships between the four mass public and four elite groups, and we situate them on a spectrum ranging from most critical to most supportive of traditional tenets of deterrence-based nuclear security. We discuss the implications of polar positions and intermediate positions for the evolution of future

nuclear security policy. Also we discuss the conceptual relationship between the saliency of nuclear security issues and public valuation of US nuclear weapons.

**Implications for Security Policy Processes** (p. 278): We discuss the relevance of the “knowledge gap” between mass and elite publics and analyze key dynamics of security policy processes, to include systemic resistance to change and the dynamics of nuclear risk and benefit perceptions.

**Bottom Lines** (p. 282): In this final section, we list key findings and conclusions about relationships between mass and elite publics and their implications for nuclear security policy.

## **Appendix 1: Research Methodology**

**Sampling** (p. 285): We discuss our purposive sampling method for determining the fifty policy elites who participated in our in-depth interviews.

**Respondent Protections** (p. 287): We summarize the protections afforded participants under applicable federal regulations and institutional guidelines.

**Initial Contact and Scheduling** (p. 287): We identify the procedures we used for contacting and interacting with participants in the interviews.

**Data Collection** (p. 288): We discuss the interview techniques, recording methods, transcription, and transcript review processes employed during data collection.

**Data Coding and Analysis** (p. 297): We describe our analytical model and discuss the two complementary coding plans and the organizing concepts we employed in coding and structuring the data. Also we describe the cluster analysis technique used to group respondents.

## **Appendix 2: Elite Focus Group**

**Participants** (p. 312): We identify the policy analysts who participated in our focus group discussion that was used to help design our interview guide.

**Security Environment and Threats to US Security** (p. 313): Focus group participants discuss the changing nature of the international security environment, Russian nuclear resources, Chinese nuclear modernization, and threats of nuclear proliferation and mass casualty terrorism.

**Relevance of Nuclear Weapons** (p. 319): Discussants assess today's relevance of nuclear weapons for strategic deterrence and for deterring biological and chemical terrorism. Also they discuss the emerging role of precision guided munitions and the relationship of PGMs to nuclear weapons.

**US Nuclear Force Structure and Posture** (p. 324): Participants discuss nuclear force size and alert posture, strategic arms control, nuclear infrastructure, and national missile defenses.

**Security Policy Processes and the Public** (p. 331): The group discusses the traditional role of the US general public in security policy processes and prospects for future participation.



## **Volume II: Chapter One**

### **Introduction and Overview**

**T**HIS IS THE SECOND OF TWO VOLUMES REPORTING FINDINGS FROM THE fourth phase of our ongoing project to study US public attitudes about post-Cold War security. We conducted previous studies in 1993, 1995, and 1997.<sup>1</sup> Those studies reported findings from three national surveys of the US general public, three surveys of different groups of scientists, and a survey of state legislators from all fifty states. This phase includes a fourth survey of the US general public and findings from fifty in-depth interviews with security policy experts. Cumulatively, our project has included fifteen focus groups in eight cities and more than eleven thousand surveys and interviews. This volume provides a description and analysis of the fifty in-depth qualitative interviews with security policy experts.

#### **Section 1.1: Project Goal**

**T**HE GOAL OF THIS PROJECT IS TO MEASURE AND BETTER UNDERSTAND the evolution of public and elite attitudes about security in the post-Cold War era, with a special emphasis on how views about nuclear security are changing. Our data allow us to examine two key dimensions of attitudes. First, a significant portion of each of the four surveys of the US general public are comparative over time. As shown in Volume I, they illustrate trends in public perceptions of the security environment and preferences about selected security policy and spending issues. Second, our previous surveys of scientists and legislators and our interviews with policy experts discussed in this volume provide comparisons of views about security among elite groups with those of the general public. Table 1.1 characterizes each of our four studies by collection periods, respondent groups, collection methods, and key lines of investigation.

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<sup>1</sup> Reports of the three previous studies in this series can be obtained from the National Technical Information Service. See: Jenkins-Smith, Barke, and Herron, 1994; Herron and Jenkins-Smith, 1996; and Herron and Jenkins-Smith, 1998.

**Table 1.1: Survey Research Series on Post-Cold War Security**

	PHASE I	PHASE II	PHASE III	PHASE IV
<b>COLLECTION PERIODS</b>	June 1993– March 1994	September– November 1995	June– November 1997	Survey: September– October 1999 Interviews: June 1999– March 2000
<b>RESPONDENT GROUPS</b>	<ul style="list-style-type: none"> <li>• General Public: <i>N = 1,301</i></li> <li>• Union of Con- cerned Scientists: <i>N = 1,155</i></li> <li>• US National Labs: <i>N = 1,226</i></li> </ul>	<ul style="list-style-type: none"> <li>• General Public: <i>N = 2,490</i></li> </ul>	<ul style="list-style-type: none"> <li>• General Public: <i>N = 1,639</i></li> <li>• American Men &amp; Women of Science: <i>N = 1,212</i></li> <li>• State Legislators: <i>N = 603</i></li> </ul>	<ul style="list-style-type: none"> <li>• General Public: <i>N = 1,483</i></li> <li>• Policy Elites: <i>N = 50</i></li> </ul>
<b>COLLECTION METHODS</b>	<ul style="list-style-type: none"> <li>• General Public: <i>Telephone</i></li> <li>• Union of Con- cerned Scientists: <i>Mail</i></li> <li>• US National Labs: <i>Mail</i></li> </ul>	<ul style="list-style-type: none"> <li>• General Public: <i>Telephone</i></li> </ul>	<ul style="list-style-type: none"> <li>• General Public: <i>Telephone</i></li> <li>• American Men &amp; Women of Science: <i>Mail</i></li> <li>• State Legislators: <i>Mail</i></li> </ul>	<ul style="list-style-type: none"> <li>• General Public: <i>Telephone</i></li> <li>• Policy Elites: <i>Face-to-face</i> <i>interviews</i></li> </ul>
<b>KEY LINES OF INVESTIGATION</b>	<ul style="list-style-type: none"> <li>• Nuclear security</li> <li>• Philosophical approaches to science and research</li> </ul>	<ul style="list-style-type: none"> <li>• Nuclear security</li> <li>• US/Russian nu- clear cooperation</li> <li>• Personal security</li> </ul>	<ul style="list-style-type: none"> <li>• Nuclear security</li> <li>• US/Russian nu- clear cooperation</li> <li>• Critical infrastruc- tures</li> <li>• Science policy</li> </ul>	<ul style="list-style-type: none"> <li>• Nuclear security</li> <li>• Precision guided munitions</li> <li>• Response options</li> <li>• National missile defenses</li> </ul>

## Section 1.2: Conceptual Approach

**T**HROUGHOUT THIS PROJECT WE HAVE APPLIED A VARIETY OF RESEARCH methods to better understand the nature of post-Cold War security as interpreted by various US publics. Our phased approach allows us to identify trends and to explore differences in evolving perceptions and preferences about security. Our focus is on measuring opinions; we do not attempt to draw policy implications from those opinions or to make policy recommendations based on them. All findings are publicly released.

Our 1999 study was designed to provide three types of information:

- Trend analysis of general public views about nuclear security in 1999 compared to national surveys of the general public conducted in 1993, 1995, and 1997. Findings are reported in Volume I.
- Data from new questions designed to further explore public attitudes about the use of nuclear weapons, the relationship between nuclear weapons and precision guided munitions (PGMs), and strategic missile defenses. Results of these investigations also are presented in Volume I.
- Qualitative analysis of in-depth personal interviews with fifty members of the US security policy community. All participants had specialized expertise relevant to security policy, and many previously held policy making positions in government. This volume reports findings from those interviews.

To help us design the survey questionnaire, we conducted three focus groups with members of the general public in three different geographic regions. Focus group discussions were conducted in Boston, Massachusetts, Dallas, Texas, and Portland, Oregon. We provide qualitative analysis of the three general public focus groups in Volume I: Appendix 2.

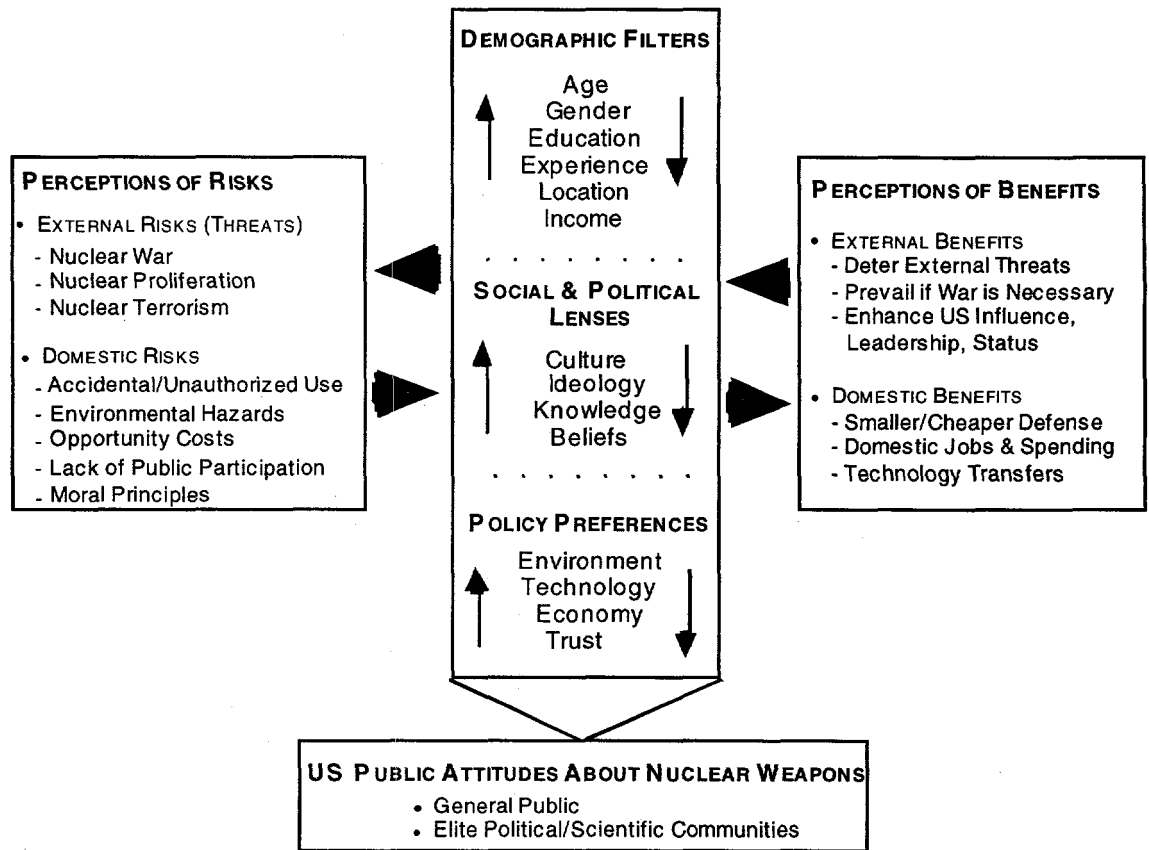
To help refine lines of inquiry for our interviews with policy elites, we conducted a focus group discussion among security policy analysts in Washington, DC. Our analysis of this focus group is provided in Appendix 2 of this volume.

### **Section 1.3: Analytic Model**

**T**HROUGHOUT THIS SERIES OF STUDIES, WE HAVE BEEN GUIDED BY AN analytical framework within which we hypothesized key relationships expected to be influential in shaping opinions and preferences about nuclear security among members of the general public and among elite publics. From this framework, we initially drafted baseline questions designed to measure key perceptions of risks and benefits associated with nuclear weapons and to examine their interaction with demographic filters, social and political lenses, and policy preferences. Questions about nuclear security were specifically designed to illuminate relationships among these sets of variables and to provide a core of continuity among all four phases

of our project. We have hypothesized, and research results indicate, that some key variables may be related as shown in Figure 1.1.

**Figure 1.1: Analytic Model**



This framework suggests that public evaluation of nuclear weapons may be an ongoing, iterative process in which the perceptions of the risks and benefits associated with nuclear weapons are evaluated within the context of a number of personal characteristics. Risk perceptions may include risks perceived to stem from nuclear weapons possessed by others, such as nuclear war, nuclear proliferation, and nuclear terrorism (external risks), and those risks perceived to derive from our own nuclear arsenal, such as dangers associated with manufacturing, transporting, storing, and controlling nuclear weapons (domestic risks). Similarly, benefits associated with nuclear weapons may be divided into those perceived to be relevant to achieving US secu-

rity objectives within the international system, such as US status, influence, and deterrence (external benefits), and those perceived to be relevant to US internal conditions, such as the economy, jobs, and technology transfers (domestic benefits). Our model further suggests that the evaluations of risks and benefits associated with nuclear weapons occur within the context of a number of variables specific to each individual. Among them are: (a) demographic factors, such as age, gender, education, income, training, and work experience; (b) social and political lenses shaped by complex packages of beliefs; and (c) policy preferences about related issues such as the environment, the role of technology in society, economic considerations, and trust in public institutions and processes. As will be shown, this conceptual framework provided the structure for one of our two complementary coding approaches to classifying the policy elite interview data.

## Section 1.4: Research Design

**T**HIS PHASE OF OUR PROJECT CLOSELY INTEGRATES BOTH QUANTITATIVE and qualitative research methods. In Volume I we report the largely quantitative analysis of a nationwide telephone survey of 1,483 members of the general public selected at random from US households having telephones. The survey was conducted from September 13 to October 14, 1999. Sampling and data collection methods are discussed in Appendix 1 of Volume I, and findings are presented in the body of Volume I. We report the largely qualitative analysis of in-depth interviews we conducted with fifty members of the US security policy community in this volume.

### Sampling

Because no comprehensive listings of security policy experts existed, probability sampling was not possible, and *statistical extrapolation from the views of those interviewed to the security policy community at large is not feasible*. Instead, we employed a purposive sampling technique in which our objective was to maximize variation in perspectives across a theoretical spectrum of views from those most critical of traditional principles of deterrence-based nuclear security to those most supportive of such concepts.<sup>2</sup> Potential interview

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<sup>2</sup> For a description of the method known as “purposive sampling,” see Maxwell, 1996, and for similar techniques termed “theoretical sampling,” see Strauss and Corbin, 1990.

candidates were selected based on our expectations about their views and policy preferences derived from their published work and organizational affiliations, research team members' personal knowledge, and from recommendations from other members of the community. As early interviews were completed, we categorized the views of respondents relative to the sampling spectrum, and further invitations were shaped to ensure coverage of the intended range of perspectives. Sampling is further discussed in Appendix 1 to this volume.

## **Section 1.5: Data Collection**

**W**E CONDUCTED FIFTY INTERVIEWS OF APPROXIMATELY 1.5 HOURS duration each between June 3, 1999 and March 1, 2000. No more than two members of the research team participated in any one interview. Participants received full protection in accordance with all federal regulations and institutional guidelines designed to safeguard human subjects participating in scientific research. The methods and protocols for our study were reviewed and approved by the University of New Mexico's Institutional Review Board, and we conducted all interviews in accordance with the approved protocols. We documented the informed consent of each participant, and all interviews were conducted with assurance of nonattribution. However, we asked approval from each respondent to list his or her name as a participant.

We recorded all interviews on audiotapes from which printed transcripts were prepared. We provided the transcript of her or his interview to each participant for review and editing. We encouraged respondents to edit their remarks as necessary to accurately reflect their views. For those participants who chose to edit their transcripts, we provided a revised final copy for their personal records.

### **Respondents**

Following is an alphabetized list of the fifty individuals we interviewed and brief remarks about some of their current or past professional affiliations. They are not comprehensive summaries of professional qualifications. We wish to acknowledge our deep appreciation to each for generously sharing their views and preferences with us.

- **David Albright:** President, Institute for Science and International Security
- **Sidney Bearman:** Editor, *Strategic Survey*, International Institute for Strategic Studies (former Senior Specialist on China and the Far East for the CIA)
- **Richard K. Betts:** Director, National Security Studies, Council on Foreign Relations; Professor, School of International and Public Affairs, Columbia University
- **Davis B. Bobrow:** Professor, Graduate School of Public and International Affairs, University of Pittsburgh
- **General George Lee Butler, USAF (Ret.):** President, Second Chance Foundation (former President of Kiewit Energy Group; Commander in Chief, Strategic Command and Strategic Air Command; chief strategist and planner for US forces, J5)
- **Stephen A. Cambone:** Director of Research, Institute for National Strategic Studies, National Defense University
- **William W. Carter:** Former member of the technical staff of Los Alamos National Laboratory and Technical Director, US Army Harry Diamond Laboratories
- **Tom Zamora Collina:** Director, Arms Control and International Security Program, Union of Concerned Scientists
- **Ambassador Jonathan Dean:** Advisor on International Security Issues, Union of Concerned Scientists (former US ambassador to NATO–Warsaw Pact force reduction negotiations)
- **Sidney Drell:** Senior Fellow, Hoover Institution and Professor Emeritus, Stanford Linear Accelerator Center, Stanford University; member of the President’s Foreign Intelligence Advisory Board, the Nonproliferation Advisory Panel, the Council on Foreign Relations, and the Commission on Maintaining US Nuclear Weapons Expertise
- **Michele Flournoy:** Senior Fellow, Institute for National Strategic Studies, National Defense University (former Principal Deputy

Assistant Secretary of Defense for Strategy and Threat Reduction;  
Deputy Assistant Secretary of Defense for Strategy)

- **Alton Frye:** Presidential Fellow and Senior Vice President, the Council on Foreign Relations
- **Frank J. Gaffney, Jr.:** Director, Center for Security Policy (former Assistant Secretary of Defense for International Security Policy; Deputy Assistant Secretary of Defense for Nuclear Forces and Arms Control Policy; Professional Staff Member of the Senate Armed Services Committee)
- **John Isaacs:** President, Council for a Livable World
- **Spurgeon M. Keeny, Jr.:** President and Executive Director, The Arms Control Association (former Deputy Director, US Arms Control and Disarmament Agency; Head of the US Delegation to the Theater Nuclear Force Talks with the Soviet Union; senior staff member, National Security Council)
- **Daryl G. Kimball:** Executive Director, Coalition to Reduce Nuclear Dangers
- **Ronald Lehman:** Director, Center for Global Security Research, Lawrence Livermore National Laboratory; Chairman of the Governing Board of the International Science and Technology Center (former Director, US Arms Control and Disarmament Agency; Assistant Secretary of Defense; chief negotiator on strategic offensive arms, START I; Deputy Assistant to President Reagan)
- **William C. Martel:** Professor, Department of National Security Decision Making, US Naval War College
- **James J. Martin:** Former Senior Vice President, National Security Studies Program, Science Applications International Corporation; retired naval officer and former nuclear planner in the Office of the Secretary of Defense
- **Jeffrey S. McKittrick:** Deputy Director, Center for National Security Issues, Science Applications International Corporation (for-



mer Military Assistant to the Director, Office of Net Assessment;  
Military Assistant to Vice President Quayle)

- **Jack Mendelsohn:** Vice President and Executive Director, Lawyers Alliance for World Security (former Deputy Director, Arms Control Association; Acting Director, US Arms Control and Disarmament Agency)
- **Charles E. Miller:** Deputy Director, Strategic Assessment Center, Science Applications International Corporation
- **Marvin Miller:** Research Affiliate, Department of Nuclear Engineering and the Center for International Studies, Massachusetts Institute of Technology (former official with the US Arms Control and Disarmament Agency)
- **Steven E. Miller:** Director, International Security Program, Belfer Center for Science and International Affairs, Harvard University; Editor-in-Chief, *International Security*; co-editor of the International Security Program's book series, *BCSLA Studies in International Security*
- **Janne E. Nolan:** Nonresident Senior Fellow, Foreign Policy Studies, The Brookings Institution; Visiting Professor, School of Foreign Service, National Security Studies Program, Georgetown University
- **Robert S. Norris:** Senior Analyst and Director, Nuclear Weapons Databook Project, Natural Resources Defense Council
- **Robert Nurick:** Senior Research Staff, RAND (former Assistant Director of the International Institute for Strategic Studies)
- **David Ochmanek:** Senior Research Staff, RAND (former Deputy Assistant Secretary of Defense)
- **Keith B. Payne:** President, National Institute for Public Policy; Adjunct Professor, National Security Studies Program, School of Foreign Service, Georgetown University; Editor-in-Chief, *Comparative Strategy*
- **Vice Admiral John M. Poindexter, USN (Ret.):** Senior Vice President, Syntek, Inc. (former National Security Advisor to President Reagan)

- **Barry Posen:** Professor of Political Science, Massachusetts Institute of Technology
- **George W. Rathjens:** Professor of Political Science, Massachusetts Institute of Technology; Secretary General, Pugwash Conferences on Science and World Affairs
- **Victor H. Reis:** Senior Consultant, Science Applications International Corporation (former Assistant Secretary of Energy for Defense Programs; Director, Defense Research and Engineering; Director, Defense Advanced Research Projects Agency)
- **Stephen P. Rosen:** Professor and Deputy Director, John M. Olin Institute for Strategic Studies, Harvard University (former Director of Military–Political Affairs, National Security Council)
- **Andrew L. Ross:** Professor, Department of National Security Decision Making, US Naval War College
- **Henry Rowen:** Senior Fellow, Hoover Institution; Director, Asia–Pacific Research Center, Stanford University (former Assistant Secretary of Defense for International Security Affairs; Chairman of the National Intelligence Council; President, RAND; Assistant Director, US Bureau of the Budget)
- **James R. Schlesinger:** Senior Advisor, Lehman Brothers; Chairman of the Board of Trustees, the MITRE Corporation; Counselor, Center for Strategic and International Studies (former Chairman, Atomic Energy Commission; Director of Central Intelligence; Secretary of Defense; Secretary of Energy)
- **Lieutenant General Brent Scowcroft, USAF (Ret.):** Founder and President, The Forum for International Policy; President, The Scowcroft Group (former Assistant to the President for National Security Affairs to Presidents Ford and Bush; Deputy Assistant to the President for National Security Affairs to Presidents Nixon and Ford)
- **Leon V. Sigal:** Social Science Research Council (former editorial writer, foreign policy and national security, *The New York Times*; Professor, Wesleyan University)

- **Steven Simon:** Assistant Director and Carol Deane Fellow, International Institute for Strategic Studies (former Senior Director, Transnational Threats, National Security Council)
- **Leon Sloss:** Former Acting Director, US Arms Control and Disarmament Agency; one of the authors of PD-59
- **Ambassador David Smith:** President, Global Horizons (former Ambassador and Chief ABM Negotiator for President Bush; Chief Minority Counsel of the US Senate Foreign Relations Committee)
- **Henry Sokolski:** Executive Director, Nonproliferation Policy Education Center (former Deputy for Nonproliferation Policy, Office of the Secretary of Defense)
- **John D. Steinbruner:** Senior Fellow, Foreign Policy Studies, The Brookings Institution
- **Jessica Stern:** Senior Fellow, Belfer Center for Science and International Affairs, Harvard University (former Director of Russian, Ukrainian, and Eurasian Affairs, National Security Council)
- **Frank J. Thomas:** Founder and former Chairman and President of Pacific-Sierra Research Corporation (former Director of Nuclear Programs, Defense Research and Engineering, Department of Defense)
- **Stephen W. Van Evera:** Associate Professor of Political Science, Massachusetts Institute of Technology
- **General Larry D. Welch, USAF (Ret.):** President and Chief Executive Officer, Institute for Defense Analyses (former Chief of Staff, USAF; Commander in Chief, Strategic Air Command)
- **Cindy Williams:** Senior Fellow, Security Studies Program, Massachusetts Institute of Technology (former Assistant Director for National Security, Congressional Budget Office; member of the Senior Executive Service in the Office of the Secretary of Defense)
- **Philip Williams:** Professor, Graduate School of Public and International Affairs, and Director, Matthew B. Ridgway Center for International Security Studies, University of Pittsburgh

## Conducting the Interviews

The interviews were conducted in accordance with methodological principles provided in the applicable literature on interviewing for research. Our research team developed a protocol booklet that summarized methods, participant protections, recommended interview techniques, guidelines for recording, and other specifics used to standardize the interviews. Our protocols and techniques are described in Appendix 1 of this volume.

### Section 1.6: Data Analysis

**O**UR ANALYSIS OF THE MORE THAN ONE THOUSAND PAGES OF INTERVIEW transcripts required that we address two essential requirements. First, we had to develop a systematic way of coding and retrieving related data from the fifty transcripts. Second, we needed an organizing concept that would ensure key issues were assessed across the full spectrum of views provided by our purposive sampling method.

#### Data Coding and Retrieval

The first of these analytical requirements was met by employing specialized software designed to allow each paragraph in each transcript to be coded by topical subject for systematic retrieval. The software is known as QSR NUD\*IST 4.0, which is the acronym for Qualitative Solutions and Research, Non-numerical Unstructured Data Indexing Searching and Theorizing. It is one of the most widely used software programs for analysis of qualitative data.<sup>3</sup> It supports multiple codes for each paragraph and provides a wide variety of methods for searching, retrieving, and reporting associated topical data.

We employed two separate but reinforcing coding concepts to enhance research validity. Each transcript was independently coded by two researchers using different approaches. One coding approach was based on a classical hypothetical–deductive (top–down) model in which theory, related hypotheses, and primarily deductive logic were employed to code, structure,

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<sup>3</sup> See Gahan and Hannibal, 1998, for a discussion of using QSR NUD\*IST 4.0 for qualitative research.

and compare the interview data in accordance with the analytical model shown in Figure 1.1. Additional coding categories were added as necessary to accommodate views not easily categorized within the existing model.

The complimentary coding concept employed “grounded theory” techniques to code paragraphs based on frequency of topical occurrence. In this bottom–up approach, no theoretical framework was followed in which key relationships were hypothesized *a priori*. Instead, each new topic was initially coded when it first appeared in any transcript, and associated topics were grouped and relationships among groups were explored using primarily inductive logic. This approach is widely used in various fields of social science to avoid presupposing expected relationships and to let observed relationships emerge from the data and the subsequent grouping of related subjects.<sup>4</sup>

These concepts yielded two separately coded datasets, from which interview comments were sorted and aggregated for analysis and reporting. Results from each dataset for the major topics to be analyzed were then compared and contrasted for similarities and differences. This technique greatly increased the likelihood that all comments relevant to each topic would be retrieved for analysis.

## Organizing the Analysis

Given these two methods for systematically retrieving associated textual data, we next developed our organizational approach to the qualitative analysis which integrated two key relational strategies. The first was a topical concept in which the subjects to be analyzed were arranged into the five broad topical areas corresponding to our interviewer guide.<sup>5</sup>

- The international security environment
- The evolving nature of nuclear security
- Arms control and US nuclear force structure and posture
- Beliefs about principles of security

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<sup>4</sup> See Glaser and Strauss, 1967, and Strauss and Corbin, 1990, for detailed explanations of the qualitative analysis method known as grounded theory.

<sup>5</sup> See Appendix 2, Annex C of this volume for our interviewer guide.

- Domestic issues and the role of the general public in security policy

These topics, some of which were disaggregated into separate chapters, are discussed in Chapters Two through Eight in this volume.

The second organizational approach involved applying cluster analysis techniques to group respondents into differentiated clusters. These clusters were characterized by the similarity of security perspectives within each group and the differences of perspectives between groups. To perform the cluster analysis, each respondent was independently rated by two researchers on perspectives about each of five equally weighted issues.

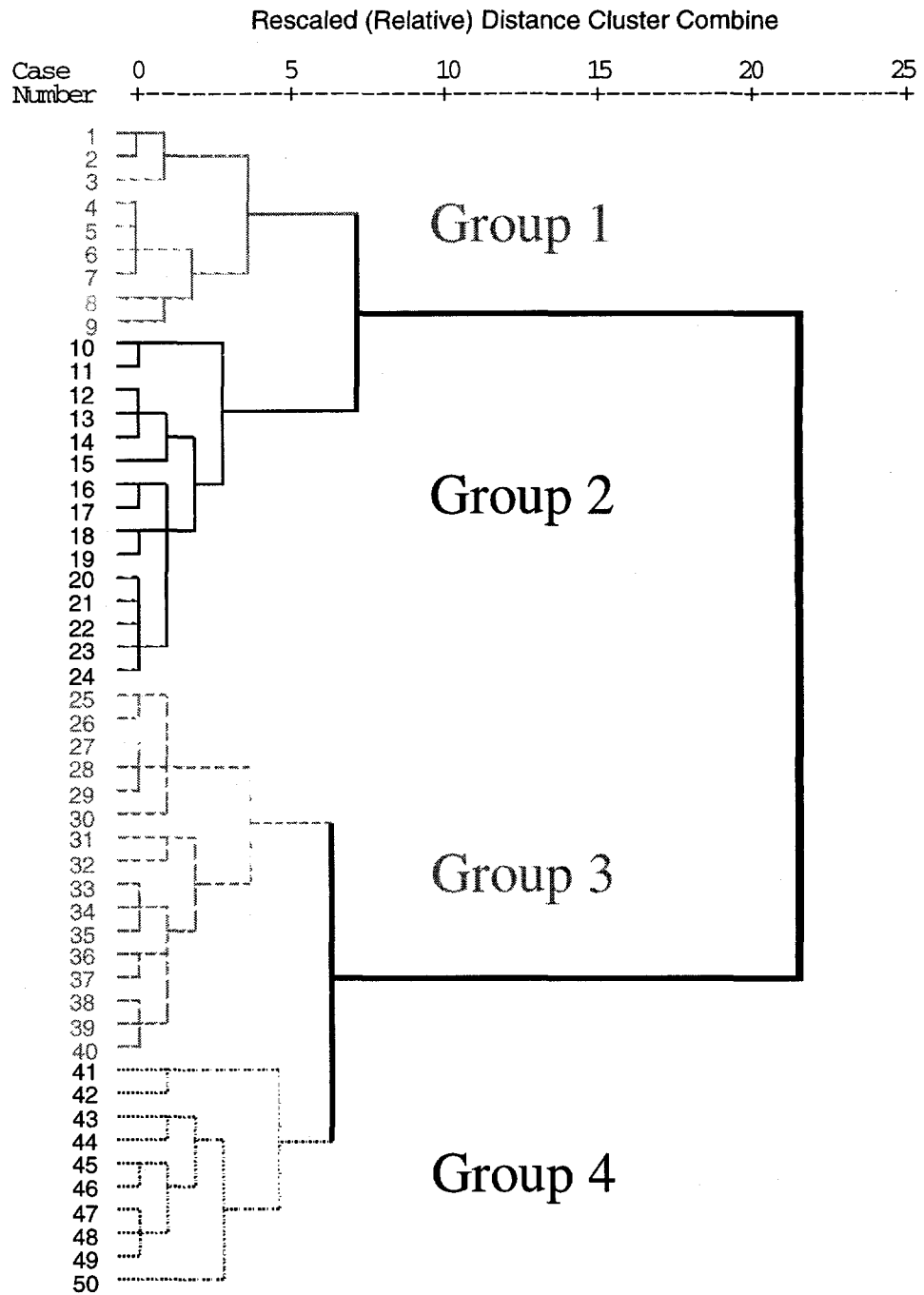
- Desirability of nuclear abolition
- Feasibility of nuclear abolition in the foreseeable future
- Utility of US nuclear weapons
- Efficacy of nuclear deterrence
- Degree to which US security considerations should be integrated with those of other states in the international community

Each participant was rated on a continuous scale from zero to ten. Differences in ratings between the two researchers were discussed, associated passages of text were reviewed, and where differences in interpretations remained, a midpoint rating between each of the two individual scores was adopted. All variables then were rescaled zero to one and equally weighted. The resulting scores were used to perform agglomerative hierarchical cluster analysis. The method used for combining clusters was the single linkage technique (also known as nearest neighbor) and within group average linking.<sup>6</sup> The number of clusters was determined by the data and the statistical outcome. For our data, four clusters were identified as shown in the dendrogram at Figure 1.2.

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<sup>6</sup> See Appendix 1 of this volume for further discussion of cluster analysis.

**Figure 1.2: Policy Elites – Hierarchical Cluster Analysis Dendrogram (Average Linkage Within Group)**



This dendrogram portrays each of the fifty interviews (cases) in terms of relative proximity to one another within a five dimensional Euclidian space.<sup>7</sup> It identifies not only which clusters are joined, but also the relative distance at which they are joined. Instead of plotting actual distances, it rescales them proportionally to numbers between zero and twenty-five. Thus the rescaled distance measure at the top of the dendrogram does not correspond to absolute distances, but it preserves the ratio of the distances between steps so as to provide a relative measure of Euclidian distance between and among cases. For example, cases 1 and 2 are quite similar, and they cluster at a scale value of zero. They are joined by case 3 at a scale value of one. Cases 4-7 are very similar, and they constitute another cluster at the lowest scale value. Cases 8 and 9 do not cluster until reaching a scale value of two. They join Cases 4-6 at a scale value of three. The two subgroups consisting respectively of cases 1-3 and cases 4-9 cluster at a scale value of four to comprise Group One. Notice that Groups One and Two cluster at a scale value of seven, and that Groups Three and Four cluster at a scale value of six, but the four groups do not combine into one cluster until reaching a scale value of twenty-two. This indicates that Groups One and Two are relatively closer, and that Groups Three and Four are relatively closer than any other combination of groups.

**Group One** consists of nine respondents whose shared views of the five cluster issues indicated that they were most critical of traditional principles of deterrence-based nuclear security. Eight of the nine considered nuclear abolition to be desirable, and six considered it to be feasible. They attributed the least utility to nuclear weapons of any group, and they considered nuclear deterrence to be dangerous and unnecessary. Most members shared a perspective of how the US should relate to other states within the international system that did not include unilateral security actions.

**Group Two** includes fifteen participants who shared critical perspectives of traditional nuclear security, but they were somewhat less critical than Group One. Nine members of Group Two considered nuclear abolition desirable, but only two considered it feasible. On average, nuclear weapons were perceived to have very low utility, and nuclear deterrence was considered to have become even more inefficacious since the end of the Cold War. Members preferred a highly integrated role for the US in support of international security and stability, with enhanced functionality for international organizations.

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<sup>7</sup> The case numbers have no relation to the sequence of the interviews.



*Group Three* consists of sixteen respondents who shared views about traditional principles of nuclear security that were more supportive than either of the first two groups, yet were somewhat more equivocal than Group Four. Two members of the group considered a nuclear weapons-free world theoretically desirable, but none thought it was feasible. Nuclear weapons were seen to have utility primarily for deterrence purposes, and when properly managed, nuclear deterrence was considered both efficacious and stable. On average, members perceived a highly integrated world in which most US security policies should be considered in a multilateral context, but with US leadership and the capability for unilateral actions when necessary.

*Group Four* is composed of the ten participants who shared the most supportive views of traditional nuclear security. None considered nuclear abolition to be either desirable or feasible. Nuclear weapons were perceived to have great utility for deterrence and, if necessary, for prevailing in war. Nuclear deterrence was viewed as the primary reason why nuclear conflict was avoided during the Cold War, and nuclear weapons were thought to be useful for deterring nuclear and other types of mass casualty weapons. Though acknowledging the increasingly integrated nature of the international system, members considered the US to have a unique role with unique responsibilities that require strong leadership and a willingness to act unilaterally if necessary to protect US national interests.

## **Section 1.7: Organization of Volume II**

**I**N CHAPTER TWO, "INTERNATIONAL SECURITY ENVIRONMENT," WE EXAMINE group perspectives about the changing nature of post-Cold War security. We compare views about the attributes of today's security environment, including the evolving characteristics of the international system, threats posed by Russia and China, the challenges of nuclear proliferation, and the potential for terrorism involving mass casualty weapons.

Chapter Three, "Evolving Nature of Nuclear Security," analyzes respondent views about risks and benefits of nuclear weapons, the evolving role of nuclear deterrence (including extended and existential deterrence), the utility of nuclear weapons for deterring biological and chemical weapons, and the relationship of precision guided munitions ("smart bombs") to nuclear weapons.

In Chapter Four, "Nuclear Arms Control," we compare and contrast attitudes about the viability of strategic arms control to include START II and III and prospects for the Comprehensive Test Ban Treaty.

Chapter Five, "Nuclear Forces and Infrastructure," addresses US nuclear force structure and posture to include preferred stockpile size and projected viability of the triad. It also addresses nuclear infrastructure issues such as stockpile stewardship.

In Chapter Six, "Missile Defenses," we summarize respondent perspectives about theater and national missile defense systems.

Chapter Seven, "Beliefs About Nuclear Security," analyzes beliefs about the desirability and feasibility of eliminating nuclear weapons, whether nuclear weapons can be reconciled with core US values, and the conditions, if any, under which the employment of US nuclear weapons can be justified.

In Chapter Eight, "Elite Views of the Public and Nuclear Security," we report participants' understandings of the traditional roles of the public in nuclear security policy, perspectives about the capacity of the general public to understand and participate in security policy processes, and preferences about the role of the general public in the evolution of future US security policy.

Chapter Nine, "Comparing Mass and Elite Perspectives," employs results from the cluster analysis of respondents from the general public reported in Volume I and findings from the cluster analysis of policy elites discussed in this volume to compare and contrast group perspectives, beliefs, and policy preferences about nuclear security.

In Appendix 1, "Research Methodology," we provide an expanded discussion of the research methods and techniques employed in conducting the interviews with policy experts and in analyzing and presenting our findings.

Appendix 2, "Elite Focus Group," summarizes the group discussion we conducted in Washington, DC with ten security policy specialists that we used to help structure and design our interviewer guide.

## Volume II: Chapter Two

### International Security Environment

**T**HIS CHAPTER CHARACTERIZES THE WIDE RANGE OF VIEWS ABOUT THE evolving nature of the post-Cold War security environment expressed during our face-to-face interviews with selected members of the US security policy community. Because it is not possible to represent every view about each topic, and because our sampling methods do not support statistical inference, we do not attempt to characterize views based on the frequency of their occurrence.<sup>1</sup> Our objective is to represent the *range* of perspectives we were provided and to fairly characterize and contrast the views of our respondents. When in doubt about whether to include comments, we tended toward inclusiveness because of the rich data provided by our participants, and many passages from the transcripts are quoted. At the end of each chapter, we summarize relevant group perspectives of each of the four clusters of respondents that we described in Chapter One.

Our preference is to illustrate the opinions of participants in their own words, and throughout this volume we include multiple quotations from each of our fifty respondents, but no attribution is made by name. We attempt to include sufficient lengths of quotations to provide adequate context, but we shorten many passages because of space limitations.<sup>2</sup> Where there are similar comments, we try to use one or more representative quotes.

One of the limitations of comparative textual analysis is that complex linkages among issues must sometimes be subordinated to the objective of contrasting a range of views about individual issues. For example, in a given interview,

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<sup>1</sup> See Chapter One, Section 1.4 and Appendix 1, Section 1 of this volume for discussions of our purposive sampling methods.

<sup>2</sup> The following ellipsis conventions are used to indicate omitted passages: (a) an ellipsis preceded and followed by a space indicates one or more complete sentences were omitted; (b) an ellipsis followed by a period indicates that the ending of the sentence was omitted; and (c) an ellipsis followed by no space and a lower case letter indicates that the beginning of the sentence was omitted.

control of Russian nuclear assets may be closely linked to the potential for terrorism, and that may be linked to the efficacy of US nuclear weapons for deterring terrorism, and that may be linked to retaliatory options, and so on. Yet to provide comparative commentaries about any one of those linked issues requires that we organize and present comments from different respondents about the components in ways that partially may obscure the integrated nature of their views. The comparative approach involves extracting comments from original contexts and arranging them in groupings. Though some connections among related subjects are perhaps less apparent than those within complete transcripts, the offsetting benefit is to more thoroughly illustrate the scope of respondents' views about individual security issues.

Section 2.1 characterizes respondent assessments of the post-Cold War security environment. In Section 2.2 we present views about implications for managing security in today's environment, such as asymmetric threats, changing international norms, concerns about potential counterbalancing actions against the US, and future challenges. Section 2.3 addresses the changing nature of the nuclear threat from Russia and assesses US policies toward Russia. In Section 2.4, we report participants' views about security implications associated with China. Section 2.5 summarizes views about nuclear proliferation, and Section 2.6 addresses mass casualty terrorism. We conclude the chapter by characterizing group views in Section 2.7.

## **Section 2.1: Characterizing Today's Security Environment**

**W**E BEGAN OUR INTERVIEWS BY ASKING RESPONDENTS TO IDENTIFY the key attributes of the current international security environment. Not unexpectedly, two of the characteristics identified were (a) the absence of great power and associated alliance rivalry that characterized the Cold War period, and (b) the absence of a system-wide organizing principle around which international security can be structured. As a result, stark differences exist between the relative stability of the Cold War period and the greater uncertainty and unpredictability of the post-Cold War world. The following quotations illustrate some of the ways respondents described these changed conditions.

- We've lost what I used to call the COP, the central organizing principle, which was the adversarial relationship with the Soviet Union. That exacerbated

relationships, but it also simplified them, because a lot of the smaller problems were simply smothered by this major confrontational situation. ... Second, there are no economic, political, social, or military rivals to the United States. ... So those are the two big things that have happened: collapse of the confrontation, and the rise of an unchallenged and almost unchallengeable United States.

- I would start with the obvious, and that is the lack of bipolarity. The concepts that revolved around that bipolar structure also disappeared, and there exists nothing to replace them.
- If you think of the broadest levels, two key features are the extraordinary American primacy that presently exists and the fact that, unlike just about any time in the history of the state system, we have an international politics today that is not organized in some central way around great power rivalry.
- The bipolar situation that defined so much suddenly collapsed, and I still think that we haven't really found a new paradigm or way of conceiving of ourselves.
- The primary attribute of the post-Cold War environment is that there is no existential threat to the United States that is really credible right now.
- A primary characteristic of the Cold War was that it really was very stable. ... It provided a beacon for orientation. There is no beacon right now. ... There's a new space, but you can't define and describe it in terms of the equations that represent that space.
- We used to live in a world where we had one primary, extremely high-stakes, life-threatening, but unlikely conflict out there. It had to be managed very carefully. Of course, if you were wrong, the fact that it was unlikely didn't help you, because the stakes were almost total. Now there are probably a score, at any given time, of frankly much lower stakes, but nevertheless very real and very likely conflicts occurring. I think that we're making the mistake of running around and trying to plug all holes without having figured out what the stakes for the US really are.
- The first thing that comes to mind is real uncertainty. The rules of the past that most of us grew up with were heavily dominated by the Cold War, and they are not there anymore. Alliances were put together based on which side of the Cold War you were on. If you could say whether you were a participant and which side you were on, that pretty much defined everything. That's basically no longer the case. So the new view, in terms of where you are, is very difficult to characterize, and I think that difficulty is the central focus of the national security environment.

Other respondents chose to emphasize different kinds of descriptive characteristics such as complexity, interdependence, fluidity, a greater number of actors, and the need for collective security mechanisms.

- Compared to that [the Cold War], the first attribute is “complexity”—in international relationships, in the international situation, in the number of international actors, and in the influence of the international actors and independent actors. ... The second attribute is “interdependence”—much, much more interdependence than in the past, and I’m referring to interdependence in a lot of ways—globalization in general, the fact that there is no such thing as an independent nation anymore. ... My third attribute would be “dangerous.” While the danger of a cataclysmic event that we all lived with for fifty years is near zero, on balance we live in a world where there are a lot more individual threats to what the world community claims are standards and interests. ... And it’s not just weapons of mass destruction; it has to do with the interdependence of communication systems, information systems, and transportation systems. All of these systems are subject to new dangers and new disruptions that have very widespread effects on the entire international community.
- Chaos, fluidity, and lack of saliency [are the primary attributes]. ... The chaos comes from the loss of the polarities and the discipline associated with the Cold War. ... [As to fluidity,] what we have is a kind of kaleidoscopic picture out there in which those who have been our allies suddenly become our enemies and vice versa. ... [And regarding lack of saliency,] you cannot get the public to focus on people who, on the one hand, do not seem to represent a serious threat to American society, and, on the other, whose colors keep changing. Those who were our enemies of yesterday are our friends today and are likely to be our enemies again tomorrow.
- The proliferation of actors—many of whom are what we call non-state actors and not national governments, with all that implies—is one key feature of today’s security environment. A second feature is the emergence of ad hoc coalitions versus relatively sustained uniform coalitions. ... A third feature is the ambiguity about the importance of any particular crisis, conflict, incident, or event. ... Fourth, information is vivid in real time. ... A last feature, at least for the US, is the fleeting attention span to these events, maybe because the importance of these conflicts is so ambiguous.
- The prime problem that faced the US over the last eighty years was the threat of Eurasian hegemony by a single state, and that has faded to the point where it’s almost undetectable. We don’t see an aspirant for Eurasian hegemony. ... I cannot see a scenario where a new potential hegemon could arise in Western Europe.

- Probably the most important overarching feature remains the absence of a reliable international collective security agency. Despite the changes that have gone on in the last fifty years, the United Nations is not a reliable means of providing security for any of its individual members. ...ultimately we're still in a state of international anarchy in important ways. ...the context of the US without peer competitors, a greater license for regional aggressors, more lethal means of destruction in the hands of otherwise second- and third-rate powers, all within the context of a relatively anarchic international security system are features that are decisive when thinking about national security issues.

## **Section 2.2: Implications for Managing Security**

**W**E ASKED PARTICIPANTS TO DISCUSS SOME OF THE KEY IMPLICATIONS of the post-Cold War security environment for national and international security. Following is a selection of comments about: (a) how international security and US national security have changed since the end of the Cold War; (b) evolving international norms; (c) concerns about the potential for balancing actions to counter US influence; (d) the rise of asymmetric threats; and (e) predictions about future implications.

### **Relative Security**

When discussing how international security and US national security have changed relative to the Cold War era, two dimensions of security were often cited. In the first, the threat of an all-out nuclear exchange that could destroy the US as a functioning society was judged by most participants to have substantially declined. But the second dimension, relating to the likelihood of lesser conflicts and the difficulty of predicting the nature of future threats, was thought by many to have grown since the end of the Cold War. Thus, a perspective shared by several respondents was that while the consequences of security threats have decreased, the probability of challenges to the security of the international system and to the US has increased. The implication was that if risk is conceived as the probability of an event multiplied by its consequences, then risks to national and international security may not have declined, and have perhaps grown, since the end of the Cold War. The following quotes illustrate related perspectives.

- We have removed the major threat that existed during the Cold War in that the large-scale nuclear attack on the US is much less likely; so to that extent, we are safer. But the number of potential attackers and the tools that they have available, such as chemical and biological weapons and missiles, have proliferated, and I think that makes it a less secure world. Put another way, the probability of attacks on the US has increased, but the consequences of those attacks—if you assume that the Russians are not a likely attacker—have declined.
- The world is safer in terms of the deliberate use of force against the US itself or American allies. It is somewhat less controllable because of the breakup of the Soviet Union and because of the diffusion of technology—primarily biological technology—to a wide variety of actors. It's not fair to say they represent more of a threat; we just don't understand them.
- If the question has to do with something that threatens the existence of the republic, then we're much, much better-off. But if it has to do with the number and frequency of national security challenges that we're going to have to deal with, we're much less well-off.
- If what you mean by threat is the chance of a big war, then I think we are more secure. If what you mean by threat is the chance that devastation will be brought to your citizens, I think we are maybe in a less secure world.

## Changing Rules

Several respondents expressed concerns about how the “rules” or “norms” associated with security are changing. The following quotes illustrate views about establishing and maintaining international rules of behavior and how evolving standards affect decisions about when to act in support of security objectives.

- I'm not sure there are more conflicts than there were previously, but there are more disparate conflicts, conflicts with different kinds of beginnings, causes, and therefore endings. That makes them a lot harder to handle, and they are harder to think consistently about. It's one of the reasons that we've been unable to settle on any kind of view of what the geopolitical security situation is today. ... For much of what we call the Western World, however, the notion is slowly but clearly beginning to develop that human rights and other aspects are international. Therefore you can't—or you shouldn't—allow a state to mistreat its own citizens just because they are its citizens. ... It raises enormous problems for the West. It's one thing to win a war that may have been about territory, and when it's ended the territory goes back to the way it



was, and you can perhaps withdraw. In this situation you can't withdraw until the settlement goes beyond the end of the war, beyond any kind of armistice.

- What flows from that [absence of great power rivalry] in terms of implications for American policy and particularly for the extent of American primacy...is that our power has great value to others. So there's this dilemma of constant seduction of American power by others who wish to harness it to their own purposes. ... This manifests itself in the American policy debate as the problem of intervention. ... There's an additional dimension to this issue which is that we face the dilemma that most of these interventions are secondary or tertiary from the point of view of hard-core American interests. This means that we're rarely compelled to act, and that our willingness to pay costs is likely to be more circumscribed, and it usually means that the domestic political risks are regarded by our elected officials as nontrivial. It's fashionable to say these days that the American public is casualty averse. Actually, it's our decision makers who are casualty averse, because they fear the domestic political consequences.

- ...we're entering a spontaneously integrating, globalizing economy that must have fundamental operating rules in order to preserve its coherence and prosperity. Those rules have to be equitable and universally accepted, or they won't work, and defending those rules is truly a vital interest. Establishing what they are and defending them is what it's all about. It's very different than either controlling territory by force or engaging in remote bombardment. It's an entirely different dimension, and that's what is emerging as the dominant security concern.

## **Concerns About Counterbalancing Actions**

Because of what was perceived by many as US economic and military pre-eminence at the time of our interviews, some respondents expressed concerns about the potential for other states—even some who have traditionally been allied with the US—to attempt to form counterbalancing coalitions for greater leverage against the US. Some participants considered the potential for such balancing behavior to exceed military purposes alone and to include economic (trade, technology transfer, etc.) and diplomatic objectives as well.

- The US is the sole superpower in the world. If there are dangers in the world, they're dangers that are of our own making. We're the nation most able to frighten others right now. ... From another country's point of view, you've got to see the US as a danger. The US is an intervener who is ready to take action by itself, willing to intervene in your internal affairs.

- I worry about growing resentment of the US as the sole superpower. I am concerned about the kinds of odd coalitions or bedfellows that resentment might help create in the future, whereby some people who we might not normally think of as cooperating with one another might think about it.
  
- We are the strongest state in the world. We've never really had a unipolar world in modern times; it's a new experience. If we give the world much impression that we are something of a rampaging elephant—even if we're not, even if we're the same old sensible Americans—we still have to worry that we're going to trigger some kind of counterbalancing coalition. The world is primed to align against us for structural reasons. ... Recently there have been discussions between the Russians, Indians, and Chinese about some kind of cooperation. Right now they don't have symmetrical and complementary interests, but...if we take heedless unilateral action, even of an innocent kind, we have to remember that the rest of the world is nervous.
  
- Another implication [of the absence of great power rivalry] is that we want to manage these circumstances in ways that avoid counterbalancing against American power by the other large actors. ... If you know the orbit of great powers...there is a tendency to balance, and we're the behemoth in the system these days. And what I find both interesting and disturbing is that when we consider India, China, and Russia—three large actors who in some span of decades could be competing one against another, and who have been traditional enemies—you find in each of the three capitals some interest in what we might call coordinated antihegemonic policy. ... It's surprising the degree to which the distaste for American primacy has overcome the natural enmities among China, Russia and India. Because of the history of antagonism along common borders, the territorial disputes and so on, there are real limits as to how rapidly and how extensively such an antihegemonic coalition could arise in any formal way. But what one could see is some loose and loosely coordinated antihegemonic behaviors on the parts of these three parties.
  
- We can already see—not a certainty, but a considerable probability—that out of this period of American military dominance and American economic superiority we will see at least a recurrent pattern of ad hoc collaboration between Moscow and Beijing. I would say that in this fluid situation we have already moved into an era where, by contrast with forty years ago when we belatedly discerned a Sino-Soviet split, we now are probably going to see a Sino-Russian rapprochement. I wouldn't characterize it as likely to be comprehensive, but I think that the collaboration in the [UN] Security Council is likely to be pretty frequent between those other two veto holders.

## Asymmetric Threats

Most respondents considered the US to have a clear advantage (characterized by some as superiority or dominance) in the ability to bring to bear decisive conventional forces. These capabilities were generally attributed to advanced abilities to precisely deliver conventional munitions and a unique capability to project conventional forces anywhere in the world. To some, the consequences of advantages in US conventional weapons and forces include the rise of asymmetric offsetting threats and a host of implications for policy development and crisis management as illustrated in the following commentaries.

- The threats that can cause us problems are asymmetric, and thus the national security environment is one in which the US is faced with having to follow many more small incidents that can prove to be deleterious for our policies. That means that the whole intelligence analysis problem and policy making problem gets much more complex, because there are orders of magnitude more factors involved. The rate of expansion of high technology today, especially in the communications and information technology areas, means that even small powers can cause significant problems, because they can move very fast, and planning cycles may be very short. And so the US is faced with having to keep track of a lot of situations and to be able to respond very promptly.
- The asymmetric threat ranges from very small operations of just a handful of people who conduct a terrorist attack against either US interests overseas or against the continental United States...to the employment by small countries of weapons of mass destruction where the casualties can be much, much higher—perhaps in the millions. So our national security planning has to take that entire range into account. The asymmetric threat can be practiced by nation-states, but it also can be practiced by transnational groups that don't have any state status.
- ...if you engage in asymmetric threats, in many ways you take a lot of the value out of the US conventional force advantage. ... So they attempt to keep the US out by threatening weapons of mass destruction. Until the US finds a counter to that (and there are a variety of potential counters) and as weapons of mass destruction and means of their delivery continue to proliferate, we are going to see an increasingly paralyzed US, even though it has no peer competitor at the conventional force level. It's an interesting paradox that has parallel implications for US allies. In other words, the British are going to be less willing to engage in coalition warfare with the US if they know their forces, or their urban industrial assets can be targeted by weapons of mass destruction by a so-called rogue leadership. ... And so the point is not just that the US is

going to be increasingly paralyzed, but we're going to be increasingly paralyzed in trying to form coalitions as well.

## **Predicting Future Implications**

The following quotes illustrate three perspectives about security implications for the future. One respondent believed that the globe is increasingly dividing into zones of peace and zones of turmoil.

- The model that [Francis] Fukuyama and Max Singer have laid out—distinguishing between zones of turmoil and zones of peace—is still the richest idea. One can dispute what the meaning of these zones are, but the central thrust of the idea is that the zones of peace are expanding, and that they are characterized by free market systems and various forms of liberal democratic rule. ... The reason we need to be worried about current threats is because they are obstacles to expanding zones of peace. ... It is a mistake trying to cast current threats as future cold wars, if only because that kind of competition again seems unlikely. The Cold War was a mortal strategic national combat, a scenario where we weren't just talking about someone getting hurt, we were talking about entire nations being laid to waste and killed as entities. ... What we're [now] talking about instead is resistance along the fault lines of the zones of peace and turmoil.

Another participant was concerned about the existence of a growing number of failed states dominated by corruption and crime.

- The interaction increasingly is going to be captured states—states that are captured by organized crime or that are so weakened by corruption they don't fulfill their traditional functions. ... I'm suggesting that it's not just going to be rogue states that we have to worry about in the future; in a sense, it will be criminal states. And one of the big divides in world politics in the future could be between those states that are essentially law-abiding and those states that are essentially criminal. ... sovereign-free actors are in many ways the more complex and difficult aspects of it, and they feed off the state. The crumbling of state structures is something that's going to continue.

Yet another believed that the security environment would be dominated by more opportunistic and fluid alliance relationships.

- The security environment is going to be one in which there will be odd combinations of actors, big and small, driven by particular interests, which is to say that I'm not sure that there will be formal allied agreements between or among the large and small states [as often] as opportunistic couplings. ...the Russians and the Chinese could easily find themselves in league on certain things, or the Russians and Romanians, or the Chinese and the Pakistanis. ... Nuclear capability, plus missiles, space, information warfare, and so on will be more equally distributed among the big and small powers, between the "bad" and "good." ... The span of types of wars and the methods of warfare will be quite large. ... The likelihood is quite high that nuclear weapons, along with biological and chemical weapons, will be used.

## **Section 2.3: Assessing Russia**

**W**E ASKED RESPONDENTS TO DISCUSS THEIR PERCEPTIONS OF THE changing nature of the security threats posed by Russia and to comment on US–Russian relations. Many of those discussions included views about nuclear deterrence and existing and prospective arms control and security arrangements. But in this section we focus primarily on characterizing respondents' perceptions about the changing nature of threats to US and international security deriving from Russian nuclear capabilities and limitations, as well as participants' assessments of US policy toward Russia. Comments about Russia that relate to nuclear deterrence, nuclear doctrine, strategic arms control, and force structure and posture are reserved for discussion under those more specific topics in subsequent chapters.

### **Threat Characterizations**

Most respondents considered the threats from Russia to be twofold: (a) Russia's nuclear forces and their posture, and (b) internal control over Russian nuclear assets. Both are illustrated below.

#### ***Russian Nuclear Forces and Posture***

Participants were concerned that Russian command and control over their strategic nuclear forces may be deteriorating and that Russian early warning systems are degrading, increasing the chance of accidental launches. And

some noted the possibility of a future hard-line government or splinter groups that might be more hostile to the United States.

- The number one item on our agenda has to be getting the Russian nuclear force off daily alert. That is, going away, the largest physical threat to the United States; there's nothing else in that league. There is nothing in current policy which would alleviate that underlying problem.
- If you say to yourself, what is the principal danger to the United States? It is the Soviet nuclear legacy. It is what Russia has now, and that is a danger, first, because they can't control what they have with great assurance; second, because their force structure is unraveling in a way that's very pernicious; and third, because of the proliferation danger.
- The biggest threat that I see still comes from Russia where there is the potential for a new, probably right wing, strongly nationalistic government takeover that will remind you a little bit of Germany between the wars.
- My instinct is that our concern with Russia should not be about an all-out nuclear attack, but we should be concerned about a small attack that is launched by some splinter group.
- ...the Russian threat is certainly different than it used to be, not one of intentional launch, but maybe accidental or mistaken launch, the threat of proliferation, terrorism, that kind of thing. ...one of the greatest challenges we have right now is the diversion threat in Russia, and some argue, convincingly, that the safest place these warheads could be is on top of missiles. That may be, but what that says is that we need better, safer procedures for getting them off missiles, not that we should leave them there.
- Especially in an era where the Russian infrastructure is deteriorating significantly—not just the nuclear infrastructure, but also their early warning satellite network—the risk of miscalculation or misreading the situation is increasing. ... The situation there, both technological and psychological, is rather scary, and I think any move towards getting Russian weapons off alert is a positive thing.
- I'm concerned about a resurgence of Russian nationalism, and this is a territorially sensitive problem. Will the Russian nation someday decide to reunite by itself? Right now you've got Russia, which is 85 percent ethnic Russian, and then you've got a Russian Diaspora that's scattered around Latvia, Estonia, Ukraine, and Kazakhstan. ... Estonia and Latvia are over 30 percent Russian. Ukraine is 21 percent Russian. Kazakhstan is over 40 percent Russian. History shows us that most nations don't allow their own indefinite division by borders.

... You could have something like a grand Yugoslavia scenario in which Russia reaches out to protect Russian minorities in nearby states. That's the main scenario I can see for the Russians to reach out and cause a lot of trouble and to burn down their neighborhood. I'd give it a probability of about one out of five.

- The chance of a major conflict with Russia and China is now very remote and probably was even in the latter part of the Cold War, but certainly very remote now. But the consequences of such a conflict are so overarching that they have to be given a priority consideration that overwhelms any of the many other problems we may see in the world today that adversely affect our national security and other national interests.

### ***Security and Control of Russian Nuclear Assets***

Almost all respondents were worried about the potential for leakage of Russian nuclear weapons or critical components, delivery vehicles, nuclear materials, and technical expertise. Some considered Russian domestic stability and the threat of "loose nukes" to be the most pressing threats to the US.

- Today there is little in the way of a serious threat to American security other than the residual nuclear capability of Russia and the possibility that those Russian capabilities may leak to other nations.
- The biggest short-term risk with Russia is their own implosion, not their expansion, the danger being that we're going to see leakage of materials and scientists. Everyone's been worrying about that since 1991, and we really haven't seen much of it. ... A number of the reasons are temporary and won't hold out forever. This [Russian] society continues to be in real trouble, and I'm worried that somehow the custodian role is going to erode, and they're going to start losing track of their people, weapons, and materials and sell them to Osama bin Laden or some other terrorist group.
- The issues that I do know about, and which I do think are very significant, are the whole array of problems that arise from the continuing weakness of the Russian state, and that includes organized crime and the possibility of real nuclear smuggling. What we've seen so far is amateurish, or at least what we know about has been amateurish. There already may have been significant incidents that we don't know about, and I find the general climate in Russia to be extremely alarming. ... The fact that we need to take it seriously reflects a really dangerous situation that could lead to very serious nuclear smuggling. If

nuclear weapons are detonated as a result of nuclear smuggling, I believe that it will happen in Russia.

- Russia has such horrendous internal problems that somebody could seize power and brandish nuclear weapons in irresponsible ways for internal political reasons; we have to worry about that. I'm not quite sure what one does about that, but on a more consistent hegemonic track, for Russia to again become a formidable competitor is unlikely for some decades, just because it has to overcome so many problems. ... In the context of the traditional nuclear powers—Russia and China—nuclear weapons have dropped sharply into the background, to the point where our primary concern is that nuclear technology, nuclear materials, or nuclear weapons don't get outside of Russia and into the wrong hands.
- The Russian threat really has to do with the instability of the government itself. What you worry about in Russia is the fact that they really do have enormous numbers of nuclear weapons, to say nothing of chemical and biological weapons that are still there. That poses two threats. One is that material leaks away across their borders. The other is a persistent threat of a change in the government back to something similar to what they had in the past, some sort of an authoritarian state that could threaten us directly. My guess is that, in the near-term, the threat of this stuff leaking into areas of instability poses the greater problem for us.
- Russia is a withering state becoming less and less capable of hurting us except by exporting trouble outside its own borders. The issue is Russia's ability to be a spoiler and to destabilize areas where we have interests, for example the Balkans, Central Asia, and the Middle East. But their ability to project power is rapidly deteriorating, and I don't see it turning around.

## **Policy Assessments**

Regardless of their philosophical perspectives, most respondents were critical of US post-Cold War policies relating to Russia. Some were critical because they thought the US had squandered unique opportunities for positively influencing the direction of Russian political and economic development. Others were critical of the lack of movement and initiatives regarding nuclear arms control. And some were of the opinion that US–Russian relations were deteriorating because of an insensitivity on the part of the US to Russian problems and a tendency to dismiss Russian capabilities and potential.

- We must accept that Russia is the linchpin of not just European, but trans-European and Asian security. It is not at all clear that Russia can survive in its



present form. ... The Russian question is the central issue of American security, and we've made a mess of it. We have yet to grasp the dimensions of the problem, much less its import. ... Worse, we have now, step-by-step, kicked the props out from under the nuclear arms control regime that is now vital to Russia's sense of security with regards to their deteriorating conventional and nuclear forces. ... We still view Russia as a threat. Nuclear weapons are still touted as the cornerstone of our security, as if the Soviet Union never went away, and with it the threat that gave rise to such extraordinary nuclear excess.

- ...we've got a very big problem in terms of Cold War residuals created by the military establishment of the Soviet Union that evolved onto Russia. It gives Russia basically a burden they cannot carry. ... Despite all the rhetoric, they are in implicit confrontation with the dominant alliance and with China. They are without any security arrangements that they could rely on to significantly mitigate that. ... They have not been adequately financing the establishment they inherited, and as a result, it is disintegrating from the inside. It is that internal process of disintegration that is by far the greatest danger at the moment.... We have a problem whose magnitude we have not measured, and whose character we do not understand, deriving from a military establishment still with very dangerous capabilities disintegrating from the inside and carrying burdens it simply cannot bear, with no provision at the moment for relieving those burdens.

- We are digging ourselves into a deeper and deeper hole about the actual reduction of the part of the Russian military posture that is most significant to us—nuclear weapons. ...from the very understandable Russian perspective, we're not settling for anything less than absolute dominance. They're never going to deeply accept that. ... How bad things will get will depend primarily on the state of the economy and how we handle a continuing wave of turbulence in what the Russians call the near beyond. ... We should think about finding an international mechanism that, without subordinating the Russians, will provide them with some intermediate options in the near beyond.

- Russia's nuclear weapons mean that we still have to treat Russia as a significant power. ... We ought to try to cooperate more with the Russians than we do. Right now we're treating the Russians with a significant degree of contempt, as though they don't matter, because we watch things crumbling there. That's a mistake. It's wrong-headed of us.

- We have a fundamental interest in trying to get that society [Russia] going in the right direction. I think the Nunn-Lugar money was a very good idea, and we should have spent more of it. We should have been more active about deploying our resources to help the Russians keep control of their nuclear forces and to keep their industry going and to keep their nuclear resources in Russia.

- The Russian attitude toward the US is rather unfriendly now, and I think we contributed to that through NATO expansion and other things. We've made the Russian elites feel that the US is calling the shots, and that we don't have to really engage them as full partners, and that has put a significant dent in our relationship.
- Things have gone sour with Russia. The Russians have an interest in preventing leakage, but they have limited capacity to exercise that interest. We have an equally powerful interest in the safety and security of their weapons, but we have been only modestly wise, I would say, in our pursuit of those interests.
- The Russians have interests on their own periphery which we are disinclined to acknowledge. We seem to believe that we are entitled to have whatever interests we want on our periphery, but the Russians are not entitled to any; they're not entitled to be concerned about the Chechens. ... We're not only concerned about things on our borders, we feel it's fine to worry about Georgia; it's fine to worry about Azerbaijan; it's fine to worry about Kazakhstan; it's fine to worry about Ukraine. So we're in their faces all the time. ... We always have a good story line; it's perfectly legitimate that this should be this way and perfectly illegitimate that it should be that way, but legitimate is always our way, and illegitimate is always their way. That's the way they're going to see it; the principles we invoke are not going to matter so much.

## Section 2.4: Assessing China

**R**ESPONDENTS WERE MORE DIVIDED IN THEIR ASSESSMENTS OF SECURITY challenges associated with China than they were about Russia. Two of the most widely shared assessments were that China is a rising power seeking a greater international role, especially in Asia, and that conflict between China and the US is most likely over the issue of Taiwan. Opinions differed substantially about the likelihood of China becoming a peer competitor with the US, about the future nuclear capabilities of China, and about the implications of China's development for the security of the United States. We group comments about China into two categories: (a) those representing more optimistic or benign assessments of China's security implications, and (b) those representing more pessimistic or threatening assessments.

## The Glass is Half-Full

Those who viewed China more benignly tended to believe that Beijing is unlikely to possess the ability or desire to become a peer competitor, noting that China faces substantial constraints on its nuclear modernization. With the exception of Taiwan, they saw little reason for conflict between the US and China. Instead, they tended to worry that we are demonizing China in an attempt to portray it as the successor threat for the now defunct Soviet Union.

- Regarding China, there is an unfortunate tendency to exaggerate the absolute volume of modernization, if not the rate of Chinese military modernization. ... Even if you accept relatively robust numbers for buildup, obviously hinging on continued economic growth, etc., the Chinese force is still quite a modest force compared to our own. To me, their long-range nuclear aspirations look more Gaulist than they look like the old Russian posture or our posture, which is a global MAD posture.
- ...we are engaged in a demonizing campaign that seems almost calculated to make China our new ideological enemy. Our foreign policy is characterized by the worst kind of bumper sticker abstracting and caricaturing and just sheer ignorance of the facts on the ground.
- If you look at their [China's] strategic posture, it seems very clear that their nuclear weapons are there to deter us from attacking them, and that they have no desire to attack us first or to engage in nuclear war with us. ... They've been amazingly restrained over the last fifty years in terms of nuclear forces in particular. If China was a democracy, they'd have a much larger nuclear force than they do now. ... They've got some two dozen ICBMs that could reach us, sitting in silos with warheads and fuels removed, and we've got some six thousand weapons that could be momentarily retargeted toward them and launched at a moment's notice. Would we accept that posture? I doubt it.
- It is an open question what the Chinese intend to do, because if you think a decade or two out, who is going to be in charge in Beijing is an open question. What isn't an open question is that the Chinese military capabilities are distinctly inferior to ours, and will remain so for more than a decade, and that provides an enormous opportunity to try a cooperative strategy.
- We do not want China beginning to go into an alert posture. They've not gone very far in that regard, and we don't want them to. They are actually in the condition that we want everyone else to be in. Rather than saying that China must start acting like everybody else, it's everybody else starting to act like China

which is where we should try to go. ... Basically, we need to be in the business of reassuring each other that we're not intending to attack, and that we're not putting forces in a position that they will be immediately prepared to do so.

- We've demonized the Chinese. Our establishment has a propensity to want the Chinese to assume the role of the Russians, because this is what we understand, and it was good for business. So I'm a bit worried about doing too much.
- I don't see them [the Chinese] posing a direct threat to the US in some sort of head-on confrontation. We're so much stronger than they are, and we're so locked into them economically. ... Of course, governments might change and so forth, but I don't see the threat from China in the same way as I did the threat from the Soviet Union. The concern with China is really about Taiwan.
- China is not really a threat to us; it's a nuisance at the present time. The Chinese are focused on their domestic development, and they would prefer to remain preoccupied with domestic development. From time to time little quarrels erupt that they react to out of pride and based on injuries of the past which are not relevant. But the Chinese are much less of a threat at this time than the public would have them.
- People are making too big a menace out of China. The real issue which could come to blows is Taiwan, and that is serious. Beyond this, China is something that needs to be watched. There are some things that concern me about China, but I don't see China as an enemy. China could become one, but I don't see it necessarily as an enemy, and I don't think it's inevitable that it becomes one.
- In the 1980s during the Reagan administration, there were private discussions with the Chinese. The Chinese officials that were involved indicated that they recognized that communism had failed, and their intent was to move toward a freer society. They planned to do that, but they planned to do it in a very evolutionary way, because the mass of Chinese people, at least in their view, presented them with a control problem such that if they made the transition too rapidly, there could be chaos, and they didn't think that was the proper way to go. And so our understanding was that their plan was to move slowly toward a freer society, and in my opinion—based not as much on fact as intuition—I think that they're moving in that direction, and we have to be patient. ... And until we have very positive indications that they're going to retain an oppressive dictatorial society, we should give them the benefit of the doubt. It's inevitable that they will become a significant nuclear power, and they will become a competing economic power. But I don't see that this has to necessarily evolve into an antagonistic and militarily confrontational situation.

- It's quite obvious that we're a status quo power and that China is a rising power. If China becomes rich and powerful and doesn't bother other people, I don't see why we should have difficulty with China. And if it does bother other people, then those other people will react—the Japanese, the Indonesians, the Indians. One area of concern is what is happening with regard to Chinese behavior in the South China Sea.

## **The Glass is Half-Empty**

Those who viewed China as a growing threat believed that given its human resources and rapidly growing economic and technical capacities, China is likely to emerge in the 21<sup>st</sup> century as the only serious challenger to US influence, especially in the Asia-Pacific region. Though Taiwan was seen as the most likely flash point, these participants considered China to be a growing regional power whose aspirations are bounded primarily by conflicting US interests in the region.

- I do take very seriously the relationship with China as the only long-term threat of serious conflict facing us. ... Given the additional push from India, China will almost certainly go in for MIRVs and probably penetration aids and things of that sort. ... But beyond the arms buildup, the more serious threat is, of course, a conventional war over Taiwan.
- It may very well be that China's reaction may be more significant to the way things play out in the future than Russia's. Russia doesn't have a lot of policy options. China has a few, none of which are favorable to us. They might deploy more long-range systems, become more intractable, or do something in connection with Taiwan. I don't think they have an aggrandizement plan beyond Taiwan, which is not aggrandizement in their eyes, but consolidation of a province.
- The Taiwanese issue is a particular flash point. The Chinese, despite all the euphoria about the World Trade Organization, see the US presence in their part of the world as threatening to them, and they see the Japan-US alliance as particularly threatening. ... The Chinese have gained in their ability to field more sophisticated weapons, and I think they will embark on a program of modernization, but in a limited way. They definitely want lighter warheads and MIRVed missiles, but I don't have the sense that they're going to go to thousands of weapons—at least from my talking to Chinese people. But I do think they will be somewhat belligerent, particularly on the Taiwanese issue.

- We may be in the process of witnessing the emergence of a much more substantially nuclear armed China. How hostile it will be in the future is both open to debate and at least partially dependent on the wisdom of our own politics.
- As for the Chinese, they are probably the most troublesome folks on the horizon, because they clearly have designs on the Spratly Islands and are pretty determined to see Taiwan a part of China. And they are going to confront the Russians from time to time on their northern border.
- One thing that irks me is how often one gets the sense that debates over tangling with China leave nuclear weapons out of the discussion. ... We've become fixated on thinking about nuclear weapons in terms of a few scenarios having to do with the central plains in Europe. Or we assume that because a Chinese attack on Taiwan would be aggressive, that they wouldn't take risks that might involve escalation. But they don't see it that way. There is something foolhardy in lack of attention to that.
- The Chinese are clearly attempting to use their nuclear weapons against us even now to influence our strategic choices. That's not something they tried to do five years ago.
- They [the Chinese] can't feed themselves; they've got too many people and too few sources of food, and they are driven by so many forces and factors. They are still a strictly authoritarian communist controlled country, but they're into capitalism part way. They're sort of half pregnant with capitalism right now, and that's an unstable mixture, and so that has all sorts of potential for problems. And that's going to play out some time in the next decade.
- The rise of a major competitor is inevitable; China is jockeying into that position. We fundamentally distrust each other. The limiting condition is how quickly China's political, economic, technological, and military bases of power can expand. China is decades away from superpower status. Their next significant step in that evolution will be developing significant nuclear forces.... Competition with China is inevitable in the future.
- I do worry about the growth of Chinese power to affect our ability to project power into East Asia, Taiwan being the most serious flash point. ... The Chinese, just by force of momentum, are going to gain increasing capabilities to operate effectively in that zone, and we need to pay attention. So I see China as a top-drawer regional power, but not as a "peer" in any sense of the word.
- ...China's ambitions are not necessarily to dominate any other state physically, except Taiwan, and that's of course a very serious current problem. But

increasingly China wants to have growing influence in the Pacific, and that comes at our expense. They'll be looking for ways to achieve that objective and minimize US security interests in the area.

- The Chinese are modernizing their nuclear arsenal, because the Chinese appear to view establishing nuclear parity as part of the whole business of establishing global equivalence with the United States. And if other people take it seriously, for that reason, we have to also. ... If they think that the US is going to be more reluctant to stand up to them if they have parity in nuclear weapons, and therefore it is safer for them to take regional action, then the fact that they think it is true makes it a fact, regardless of the logic of it.

## **Section 2.5: Nuclear Proliferation**

**W**E ASKED RESPONDENTS TO ASSESS THE LIKELIHOOD AND IMPLICATIONS of further nuclear proliferation. While there was considerable agreement that the implications were dangerous for US and international security, opinion varied more widely about three other aspects of the issue: (a) motivations for nuclear proliferation; (b) the future outlook for further proliferation; and (c) nonproliferation policies.

### **Motivations for Proliferation**

Participants provided differing explanations about why some states choose to acquire nuclear weapons while others choose to forego them. Following are comments about attempts to establish normative behaviors against further nuclear proliferation, such as the nonproliferation regime, arms control agreements, and nuclear weapons states reducing the size of their nuclear arsenals. Also we include comments about the role of security arrangements in which nuclear armed states attempt to extend nuclear protection to reduce the incentives for non-nuclear states to proliferate.

#### ***Normative Nuclear Behaviors***

- We can't state repeatedly, as our leaders do, that these [nuclear] weapons are essential for our national security and have others believe that they are not valuable for them too, or that they should do without them. ... The real shock will come when countries like Japan and others that can develop their own

weapons decide this system is not giving them adequate protection, and that can be the result of the situation in Asia as it develops further. ...otherwise, the prospect is to move rather slowly to a proliferated world and the kind of jockeying for national position that we saw in eighteenth- and nineteenth-century Europe, which doesn't strike me as being a very stable situation when the states are equipped with nuclear weapons.

- For a long time to come, the countries that have nuclear weapons will be viewed as powerful countries. ... And that's why many other countries, not unreasonably, want to get nuclear weapons. They think that nuclear weapons will get them into that club, and perhaps they might—at least on a regional basis, if not on a global basis. If the US was to cut back its nuclear weapons capabilities to the point where they're vanishingly small, or talk seriously about doing away with them completely, it would reduce the respect with which we are viewed by other countries, both those who are potentially hostile to us and those who look to us for assistance in times of military need.
- I don't believe that our behavior or our doctrines or our nuclear rhetoric are the determining factors in others' decisions about nuclear weapons, particularly when you're talking about the Saddam Hussein model of people who are hostile to our power, to our purposes, to our interests, and to our values. ... With those kinds of actors, you have to rely on something other than our own behavior.
- When emerging states that are growing enough to have the necessary resources choose to acquire nuclear weapons, it's for their own needs. It's for their own purposes and their own interests. And there are huge amounts of money and effort involved. They're not just saying: "Well they've got them, so it's OK for me to have them." That argument is a little too glib for me. Nations don't operate that way, and I don't think terrorist cells do either. They use that argument if they're secret proliferators. Or if they're [moving] counter to what everybody else is doing, they use the "you've got them, therefore I can" rationale, but that's not really why they are doing it. It's a hollow answer.
- There was a great response [to Indian and Pakistani nuclear testing] from [President] Clinton that said: "Don't they know that the rest of the world is moving away from nuclear weapons?" That's the norm that we're trying to promote. When you look at the rest of the world, just try and find the ones that are moving away from nuclear weapons. Now the Russians are embracing nuclear weapons more and more. The Indians and the Pakistanis obviously aren't moving away from nuclear weapons, nor the Chinese.
- It is arrogant in the extreme to think that there is (a) an international norm, and (b) that it is translating into the end of history with respect to future nuclear



weapons development anyplace but in the United States of America. ... I personally believe that, the way things are going, it will be a miracle if the Japanese, the South Koreans, the Taiwanese, don't start at least making noises about acquiring nuclear capabilities—which they could have at any time.

### ***Viability of Security Arrangements***

- The countries that have chosen not to pursue their own nuclear arsenals, because they're comfortable with either the US nuclear umbrella or the nonproliferation regime and broader international system that the US has helped to create, have fairly high confidence that nuclear weapons will not proliferate. If enough things start chipping away at our leadership or their confidence, I think countries might eventually choose a different course of action.
- Over the very long-term, unless there's a really major transformation in the way countries think about international politics such that people come to believe that the international system is no longer a self-help system, countries that rate high in economic and technological capabilities are not going to be comfortable not having their own nuclear deterrent. So there's potentially a problem with the Japanese and Germans.... I don't think we have a clue about when the problem will become politically imminent, how we'll manage it if it does become imminent, how we'll get through that process, given that others will perceive very great windows.

### **Proliferation Outlook**

The general tenor of respondents' views about future proliferation of nuclear weapons was pessimistic, with some concluding that further horizontal nuclear proliferation is inevitable. That is not to imply that most participants thought the nonproliferation regime is no longer useful or future nonproliferation efforts should be abandoned, but most were pessimistic about the nonproliferation regime's ability to prevent further nuclear proliferation for two basic reasons. First, the utility of nuclear weapons for major nuclear weapons states continues to be apparent to others, and second, the spread of technologies, including information technologies, carries with it the potential for further nuclear proliferation. Following are contrasting views about the likelihood of further nuclear proliferation and how it can be minimized. We also include comments about the implications of a more proliferated future.

## ***Further Proliferation is Inevitable***

- Nuclear proliferation in general, along with the rise of China, is the biggest security problem we're going to face in the years ahead. We're going to see recurrent proliferation crises of the kind we faced with Iraq in 1991. The Iran, Iraq, and North Korea type problems that we face today are going to be permanent issues in our security policy. I can't see when they will ever go away. How could nuclear proliferation ever stop being a security issue for the US? And it's really going to get worse, because the technology continues to become cheaper and continues to spread, and I don't see how this problem ever eases.
- The proliferation of weapons and technologies is inevitable. There's a lot of interest out there in possessing these kinds of weapons. Rogue states eventually will possess both nuclear weapons and ballistic missiles. The Iraqis, Iranians, Libyans, and North Koreans clearly have significant interests and intentions in that area. Everything we know tells us that they're moving as aggressively as they can.
- As technology becomes more available, and as information becomes more accessible, it is inevitable that more states are going to have the capability of producing nuclear weapons. There are two or three major elements of a campaign to stop nuclear proliferation. One is to stop the access to nuclear weapons material and knowledge; another is to prevent countries from having the means to develop and produce nuclear weapons; and a third is to reduce the incentives to have those nuclear weapons. And so long as we have them, we are helping to create an incentive by legitimizing the role of nuclear weapons in our national security policy.
- What can you do with arms control to give a boost to nonproliferation—or is nonproliferation dead? There are now two more nuclear powers (India and Pakistan), and they achieved that status with virtually no cost to themselves. Does that mean that there are going to be more nuclear states? Arms controllers need to think of all these things, and not just how much lower should we take the US and Russian arsenals. I believe that's an almost irrelevant question.

## ***Proliferation Can be Managed***

- What's remarkable about the environment that we are now in is that despite the fact that there are dozens of states that could build nuclear weapons, the basic fact is that most of them have chosen deliberately not to do so. And that suggests to me that we're in an environment in which political—not techno-

logical, but political—rationale drives calculations. You need to work on the political willingness of states to see nuclear arming as not in their interests.

- ...the question is not whether the global regime stops what you're trying to stop in every case, but, rather, does the global regime help? Does it reduce testing or the number of tests? ...without that regime, we probably would have seen testing by India sooner, in greater numbers, and going on for much longer. So the question is: did the regime, as imperfect as it is, help an otherwise troubled situation? Yes, it's already shown its value in the sense that India used that global norm as the reason why it was going to curtail its program.
- Nonproliferation goals should be as important as other goals in doing business. As an example, because nonproliferation goals were less important than going toe-to-toe with the communists in Afghanistan, Pakistan now has a fairly well-developed nuclear weapons program. It's unclear if we could have stopped it, but we didn't even seriously try. Actually, we turned a blind eye. It's very important that nuclear nonproliferation be an extremely high priority of the US government.
- There is no solution for dealing with post-proliferation threats that is as effective as preventing proliferation in the first place. ... I am mainly concerned about the tendency of the existing nonproliferation regime to begin unraveling. We saw in the South Asian situation a big stitch pulled out of the fabric, and for that reason I think that a really far-sighted administration would put forward much bolder initiatives to deal with the proliferation problem by making major strides in the US/Russian strategic arms control arrangements. It seems to me you've got to have that as a centerpiece; you've got to be able to show that the superpowers are managing and reducing their threat to have any hope of effective barriers against other proliferants.

### ***Considering a More Proliferated Future***

- Two-thirds of the countries of the world today have no nuclear [weapons] capability, don't anticipate any nuclear [weapons] capability, and really don't think in terms of ever getting it. But half the population of the world already lives in countries that have nuclear weapons. Two-thirds of the world's population live in countries that could easily have them soon, if they wished. Three-fourths are in countries that could have very advanced weapons of mass destruction other than nuclear. ... We are living in an increasingly nuclearized, WMDized world. ... What happens if that architecture breaks up? How do various nations then start to think? ...we have to worry about the unraveling. The unraveling is not simply the issue of do we live up to our obligations

under the NPT and move toward disarmament. It also is the issue of the real security feelings of countries that are capable of going nuclear.

- On the proliferation front, some areas of US interests have become fairly tricky to negotiate, especially in the Persian Gulf. It would be a mistake to ignore the impact of Indian and Pakistani testing on the Gulf. ... A plausible scenario is India, Pakistan, Iran, Iraq, the UAE, and Saudi Arabia all being armed with nuclear weapons ten years from now. ... One also should not forget that India and Pakistan are becoming increasingly reliant on the Gulf for their oil; these interests will certainly play a role. This area is actually expanding its boundaries, and it will become a much more complicated national security issue in the near future due to proliferation. It's a very pivotal concern to the US.
- What you're talking about is, over the medium-term, a world in which somewhat more states turn to nuclear weapons. I don't envision a scenario in which the finger comes out of the dike, and suddenly we're in a completely nuclearized world. What you're more likely to see is a gradual accretion of additional nuclear powers and substantially more capability in the nuclear powers that exist, particularly in the hands of some states that are hostile to us. ...I don't think that a more nuclearized world is necessarily cataclysmic, just that it's less desirable than a world in which what you see are growing constraints on the numbers of nuclear armed states and the numbers of their weapons. And the price we pay to try and get that sort of world [with growing constraints on proliferation] is paid in terms of growing constraints in our own nuclear capabilities. That's the trade-off.

## **Policy Implications**

Views about the policy choices for the US to minimize further nuclear proliferation also varied widely from strengthening the nuclear nonproliferation regime, to building defenses, to downplaying the risks.

- I am convinced that the belief that we can deal with the nuclear proliferation problems exclusively through a policy of denial is wishful thinking. We are going to have to focus more on dealing with the motivations other countries have to acquire these things. ... We reduced the impetus for Egypt to acquire nuclear weapons by underwriting Camp David, and we're paying for it every year—about half of our total foreign aid goes to Egypt and Israel. We pay for reducing the motivations for Europeans and Japanese and South Koreans to acquire these weapons by deploying large numbers of people in Europe and Asia. We can do this with prospects for success up to a point. We can be helpful in

settling some disputes, and that's one way of getting around the proliferation problem; and we can guarantee some states' security, but at a cost.

- You have this whole collection of lesser states out there, or big lesser states like India, which are in the process of acquiring nuclear weapons. This will make the whole nuclear calculus much more difficult than it was during the Cold War, which was bipolar, and we didn't have to worry about dealing with twelve or fifteen nuclear states. Today, because the US has conventional superiority, other nations will be looking for a way to deter our use of our conventional superiority, and weapons of mass destruction quite obviously are a principal candidate.
- One option [for dealing with proliferation] is the kind of policies we've been pursuing which is coercion to persuade proliferators not to build the force. That's what we've been doing with North Korea—carrots and sticks to get them to not build the force. The second policy is to keep the costs high by having a global antiproliferation regime so that everyone agrees not to sell the stuff. A third policy is one of active nuclear defanging where we wage preventive wars from time to time to take away the weapons from people who build them, like the Israelis did at Osiraq, or like we could have done by going to Baghdad in the Gulf War. ... A fourth option is to use our nuclear forces to hold at risk the nuclear forces of potential proliferators....
- Your only real leverage on the problem of fissile material security is to keep the stuff safe where it is, because once the horse is out of the barn, you've got big, big problems. We now have had eight years of minor incidents that continue to this day. There is clear evidence that people are trying to fill the supply side of this market, and the morning that we pick up the newspaper and it says that Hamas has nuclear weapons purchased from Russia, nobody's going to be surprised by that. We're all going to say, "why did it take so long?"
- The answer to proliferation is not, "gee, let's not build any more weapons," nor is it to get rid of the ones we've got so we can set a good example that may lead to others getting rid of their nuclear weapons. That's not the way the world works or how people think. The answer is that you've got to find some way to defend against those threats....
- ...I don't think it poses an enormous danger for other institutions to have nuclear weapons, but if it does pose an enormous danger, I'm not sure what we could do to avoid that danger entirely. ... I see us thinking about spending a lot of money on this problem, and I don't see it as a problem that is solvable. I'm not convinced that this problem is even worth solving, and I would rather see the money spent on intelligence so that I know I can retaliate.

## Section 2.6: Mass Casualty Terrorism

**W**E FOUND WIDESPREAD AGREEMENT THAT ONE OF THE MOST DIFFICULT threats to US and international security is mass casualty terrorism in which nuclear, biological, or chemical weapons are used to create mass casualties and widespread fear and confusion. Assessments of the likelihood of such attacks against US interests varied considerably, however, with some participants assigning high priority to preventive measures and response capabilities for dealing with such threats, while others thought that the risks of mass casualty terrorism have been overblown in the absence of large state threats that characterized the Cold War environment. Following are selected commentaries about terrorism, suggestions about how best to prepare to meet those threats, and ideas about response options. We defer discussing views about deterring terrorism to the following chapter.

### Assessing the Threat of Mass Casualty Terrorism

When asked to assess the threat of mass casualty terrorism to the US and to the international system, most respondents were of two basic mindsets. One group considered that terrorism in which mass casualty weapons are used poses a clear and present danger to post-Cold War security. The opposing view was that while the possibility of mass casualty terrorism is real, it has been exaggerated and over-hyped. Each is illustrated below.

#### *Seriousness of Mass Casualty Terrorism*

- The threat of terrorism can't possibly be overestimated. ... The whole concept of the social contract would be at stake. Technically, we have so little preparation across the country for response to a medical emergency or any kind of catastrophe. It's not a good reflection on the planning that we have done; it doesn't add up to the degree of concerns being expressed. The extent to which we are under siege from this is really very difficult to gauge. The programs that make the most sense to me have a lot to do with detection, human intelligence, and emergency response, short of civil defense and massive mobilization.
- In a way, we have a choice whether we're going to get involved in regional conflicts, but with terrorism we don't really have a choice, and it affects Americans whether they want to be involved or not.

- I'm afraid the most likely threat to the US homeland is that a bin Laden or someone like that could very well lay their hands on two or three nuclear weapons, and they would have no trouble getting them imported into the US. ... But if you have a group like bin Laden that has no homeland, we don't have anything to threaten or retaliate against, and so they can get away with much more than Iraq, Iran, North Korea or someone whom you can threaten to wipe out if they do something radical. The terrorists with no homeland are the ones that could well be the greatest nuclear threat to this country.
- There is a heightened concern that we may be increasingly vulnerable to a terrorist act with a nuclear weapon. ... If you look at the actual programs we have to deal with the nuclear weapons of the former Soviet Union, it's just a joke. We're spending hardly anything on dismantling warheads; we're building containers for storage of fissile materials and then trusting the Russians to say they're dismantling this number and storing this number, because they don't want us involved in dismantling their weapons. That's just a joke. One of the first things we should do is to put together a program just to inventory the Russian nuclear stockpile.
- You can't ignore non-state terrorism, but I would differentiate between two things. One is the threat from non-governmental groups, and clearly there is a threat from this source. I don't think they can pose a danger to the US that is a mortal threat, but still, their efforts can be very disruptive. But states using either the tactics or actually the capabilities of terrorist organizations are more of a threat. ... I'd consider that to be one of the techniques that might be used against us by state actors. I don't mean to minimize the pure terrorist threat, but I think it's more likely to be annoying and disruptive, but manageable. ... I really make a distinction between that and large-scale terrorism which could inflict substantial casualties and substantial impact on the social structure.
- It's not that they [biological and chemical weapons] are all that much more likely to be used, but if they are used by terrorists or terror rogue regimes, their consequences are going to be so much worse than just high explosives. So I think the issue of facing the CBW threat is, for a constitutional democracy, a most difficult threat, because the temptation for more intrusive intelligence against domestic terrorism must not come at the expense of our Constitution.
- The objective of the World Trade Center bombing was to topple the one tower into the other and cause an enormous cataclysm. So I would be skeptical of the claim that if these groups had access to WMD they wouldn't use them. On the basis of everything I've seen, we need to anticipate that they would use them.

- The threat is exaggerated to some extent, but I wonder if that's such a bad thing. Setting aside state actors for the moment, there is, in one of these zones of turmoil, a growing anti-Western insurgency that is motivated in part and expressed in large measure in terms of an extreme religious revivalist mentality. There is a very scary mesh between the elements of this mentality and the ideology with which it's expressed, on the one hand, and the use of weapons of mass destruction, on the other. ... Many of the groups that are fighting their insurgent battles express this world view in a fairly coherent fashion. At one end of the spectrum, this ideology is manifested in terrorist attacks against Western interests, and at the other end, against full-scale battle.

### ***Exaggerating Mass Casualty Terrorism***

- Terrorism is a police problem and an intelligence problem; it is not a military problem. When I think of biological weapons and chemical weapons, I think of their use as terror weapons by groups or individuals, not necessarily by states. But, even if by states, the appropriate response is often intelligence and policing, not coherent use of American nuclear weapons. ...when all the other kinds of traditional threats—hostile states with real capabilities—have so receded, it's perfectly understandable why terrorism suddenly looks so large. And because of our interest in certain technologies, we grab onto things like bugs and gas as particularly insidious and particularly dangerous, and it makes for wonderful movies, so that we have a movie version of a threat.
- If you listen to the [Clinton] administration's characterization of the situation, then these areas should be the top priority. ... While a possibility of terrorist attack exists, it is quite obvious that no government can afford to ignore it. [But] I would advise them to cool it a little bit. For one thing, you probably saw a recent press agency report about the increased number of fake anthrax threats in the country. Those false threats are a direct byproduct of the current over-emphasis. It had been something like under four per year until the administration started building up this topic, and now they're running upwards of twenty, thirty, forty, and getting to be quite an economic, police, and administrative nuisance. The president himself, in talking about this situation, has recently begun to use cautionary language, saying that one can exaggerate the threat, and so forth, and I think these statements are welcome, and that's what I would do, but even more so.
- Terrorists, in theory, could launch or could release chemical or biological agents in New York subways, although, again, I think that is largely an over-hyped threat. The threats that I see were demonstrated at the Oklahoma City federal building and World Trade Center and where domestic crazies or individuals shoot-up high



schools. Now those are real and present threats. They are not security threats to the United States per se, whereas this so-called terrorist threat is certainly possible. I don't say it is not possible, but it is not a direct threat to US security.

- If it can be done, it will be done, but my own view is that it is overblown and over-hyped. ... Military people and security people have to plan for worst contingencies; they should; that's their business. ... All too often, the planning is way out of proportion and poorly taken. ... I would think that a more probable threat, in a technological sense, than an errant or rogue atomic weapon, or even a biological one brought in somehow, would be a carefully thought out and difficult to handle Internet or network attack. ... Consider the ramifications from a clever attack mounted on the financial system of the US, which can be done if you're shrewd. Such an attack could be done by an individual, but will more likely be done by a state-sponsored terrorist group. Now that scenario is much more probable and one for which planning must be done, and we're not doing enough on that basis.

- Those are serious issues [mass casualty terrorist threats] that deserve some attention, but they're probably now getting more attention than they warrant. And the reason I say that is because in most hands, in most circumstances, under most plausible scenarios, it's very hard to use either chemical or biological weapons in a way that makes them weapons of mass destruction.

- Let's assume that some terrorist group is able to create real havoc by the use of a biological weapon in a large city. That will be terrible; a lot of people will die; but that won't affect the fundamental security of the United States. It won't overthrow the government, and it won't replace the government with another government. It will be a terrorist attack in which lots of people die, and I don't see what use it's going to be to this terrorist group.

## **Implications of Technology Diffusion**

The following two quotations illustrate the view of several respondents that the spread of technology is increasing the capacity of states and non-state actors to commit acts of mass terror.

- The spread of technology at an accelerating rate is another factor that affects the security environment.... I mean by that not only the growing access to nuclear-biological-chemical technologies that countries and organizations have, but also the spread of technologies that can improve the non-nuclear weapons

available to terrorists. The ability to put more destruction into smaller packages is something that terrorists love to have, since that suits their modus operandi.

- There is a greater technological capability for a disaffected group or disaffected individuals or any state opposed to our interests to use... weapons of mass casualties on the US homeland. ... The fact that terrorists, at least in concept, have the capability to introduce mass destruction devices into this country now makes me feel that mass destruction attacks are somewhat more likely to occur during my lifetime than a large nuclear exchange ever was. ... a growing number of states, organizations, and individuals have the technological capability to bring those weapons to bear.

## **What Should Be Done?**

No consensus was evident about what steps should be taken to minimize the risks of mass casualty terrorism. Beyond the objective of preventing such acts, most suggestions had to do with civil preparations to deal with biological agents. Some participants were not optimistic about the US military's capabilities and role in responding to terrorism within the US in which mass casualties are experienced, preferring instead to better organize, train, and equip civilian agencies for dealing with health threats. Calls for new and more effective technologies for detecting and assessing biological and chemical agents also were noted.

- The US should spend a lot of money studying biological weapons, preparing for an attack, seeking antidotes or vaccines, and developing a way to detect what it is rapidly. It would be very helpful to be able to stick a probe on something and know what it is, rather than having to wait until it's cultured. In an odd way, protection from biological weapons almost requires more attention by the US government, although politically we have to spend more energy on getting rid of nuclear weapons.
- Reaching out from the government to the pharmaceutical and medical fields, like one did with the nuclear community, is a well-timed activity. One has to do it carefully, and avoid creating false hopes that you can do all that much, yet not creating terror that you can't do anything, and protecting our Constitution. It's a major challenge for our society, and addressing it is called for.
- If we are concerned with avoiding harm, approximately 90 percent of the US military is totally irrelevant. ... Avoiding harm should lead, rather, to enhancing the capabilities of public health institutions. The Centers for Disease Con-

trol and the Public Health Service are probably at least as important as anything else you can imagine about public sector national capability. ... I would have taken that increase that was just pushed into the Pentagon budget, and I would have given all of it to the CDC, and would put them in charge, because they are the people that know about public health threats. Asking the Pentagon to be in charge is a little bit like asking them to come up with a competitive commercial technology; it's not a natural fit. ... Why forego comparative advantage?

- We ought to develop sensors, if we can, to detect the presence of some of these agents so that we can take remedial measures or do whatever might be necessary. ... I put the biggest hope in detectors, and some of these bio-on-a-chip technologies strike me as being among the most promising. If we can get alarms out—get little detectors like we have smoke detectors now—you could have bio-detectors that are somewhat similar. If that technology has promise at all, we ought to really focus on that.

- I look at things from a budgetary point of view and always ask: “What is it going to cost to fix this problem?” Yes, terrorism probably is a problem, but is there a budget I can dream up that would fix it? No, there will always be a way around any solution you think you've found. So, I end up looking to two solutions to that problem. First, don't be an arrogant nation that scares other countries; don't throw your weight around; and don't be intervening everywhere. That's the kind of behavior that makes terrorists want to target you. Secondly, make it clear that you would retaliate. Retaliation is a concept that other countries can understand and respect. But you have to say that you're going to retaliate, and we haven't said that as much as we used to.

## **Responding to Terrorism**

The complexity of civil–military relations for dealing with mass casualty terrorism was a special concern of some respondents who noted that the legal and administrative framework for integrating federal, state, and local agencies, active duty military, and national guard and other reserve military forces is inadequate to meet the demands of mass terrorism that could result from external or internal sources. Also noted are views representative of those participants who considered nuclear weapons to be a viable response option, particularly in the service of deterring such attacks in the future.

- ...there is a great deal of confusion about who is responsible for things that in the past had a nice clear separation. If the threat was against our shores, that

was national defense. If the threat was from inside our shores, that was law enforcement. That was a nice clean division of responsibilities. Now we can't tell. If someone attacks the information system that controls the national electrical grid, or takes down the phone lines, or the national gas transmission system, or if a chemical weapon is exploded in Oklahoma City, there are no boundaries. We have no way of knowing at present whether or not that's an attack by an external enemy, or whether that's a domestic criminal act. As the clean separation between threats from off-shore and crimes within our borders disappears, it creates an enormously complex situation for our federal government to deal with. We're not organized to do that.

- FEMA has almost no ability now to deal with any kind of national security issues or responses. DTRA has growing pains; it's not really organized, manned, equipped, interested. ... It's got to be an interagency effort; it's got to be done by some organization like FEMA that can be empowered to go across the entire US government and grab the resources that are needed, including the US military, to respond to these kinds of things. ... We're up to thirteen or fourteen billion dollars now overall in terms of what we're going to try to spend on that kind of thing, but if you think about what the potential threat is, that's not very much money.

- The issue that obviously comes to mind is what to do with these smaller actors, both subnational and ethnic terrorists. How do you handle those when you're configured in your mind and in your military for positional warfare, and you're not going to have positional warfare? How do you then deal with those kinds of military or security challenges that spring up? We haven't totally figured it out, although we think we've got one answer: the cruise missile. That really isn't an answer.

- ...in some ways we've come up with a nuclear option to deal with WMD threats from rogue states because we can't see anything else to do. And that may be true in the sense that there's no other good way. There may be circumstances when, at the end of the day, there is really no other way to respond, and we have no other threat of sufficient weight to deal with serious biological and chemical capabilities.

- When you look at the scenarios of really effective use of biological agents, then we're in a different world. Because the casualty figures, not only on the military side, but on the civilian side...start spiraling up into the levels that are beyond what people can imagine really dealing with. ...then you're into a realm where the casualty figures are so high that many people would begin to think that there's no viable response except for nuclear weapons.

## Section 2.7: Characterizing Group Views

**C**LUSTER ANALYSIS OF OUR RESPONDENTS YIELDED FOUR GROUPS characterized by a relatively low degree of differentiation of intra-group views about nuclear security and a relatively high degree of differentiation of intergroup views.<sup>3</sup>

Regardless of group orientation, all respondents were in agreement that the international security environment and US security considerations had changed profoundly from those that existed during the Cold War. Most agreed that the US is less likely to become engaged in an all-out nuclear exchange that could threaten national survival, and that the security and control of Russian nuclear assets is a high priority security objective of the United States. Also there was intergroup agreement that some US policies toward Russia have been ineffective, although the nature of criticisms of those policies varied between groups. In general, assessments of the post-Cold War security environment were less differentiated by group than were analyses of attendant implications for US and international security. Some of those differences are contrasted below.

### Group One

The nine members of Group One were most likely to describe the current security environment from the perspectives of the international community. They tended to see the post-Cold War era more as a new opportunity to shape a stable and secure environment than as a mix of new security risks. They viewed nuclear weapons as the primary (and perhaps only) serious threat to the security of the United States. They argued that in the absence of nuclear weapons, US advantages in conventional armaments and forces would secure US interests to a greater degree than is possible in today's nuclear environment. They viewed the Cold War era as one of extreme danger, and considered US support for international norms against nuclear weapons to be a primary security objective.

They were highly critical of US policies toward Russia, considering them to be woefully inadequate and misguided, and they supported intensified efforts

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<sup>3</sup> See Chapter One and Appendix 1 of this volume for explanation of the methodology, clustering variables, and group profiles.

to assist Russia in its transition from communism. They were concerned that deteriorating conditions in the Russian military might compromise the command and control of Russian nuclear alert forces.

Group One members were generally optimistic about China's future, and considered China's nuclear force structure and posture and no-first-use declaration to be important indications of nuclear restraint.

Members considered continued reliance by the US and other states on nuclear weapons as key elements of their national security to be an important impetus to nuclear proliferation. They were strongly supportive of the non-proliferation regime and wanted it strengthened.

While acknowledging the possibility of terrorism in which mass casualty weapons might be used, most thought that the risks of terrorism and the threat from rogue states had been exaggerated as partial replacements for the adversarial Cold War relationship with the Soviet Union. Members tended to prefer investments in civil preparations over military capabilities to defend against acts of terrorism.

They supported mechanisms and structures for enhancing collective security, and were critical of unilateral security actions. Members stressed the economic, political, and social dimensions of US power over US military capabilities. Most evidenced the type of global perspectives and prescriptive assessments of security that are characteristic of the body of international theory known as idealism.

## **Group Two**

A wider range of views was evident among Group Two's fifteen members, but they generally considered the current security environment to be safer and more promising than that which existed during the Cold War. Members considered US leadership to be essential for enhancing international security, and they thought that the absence of the Cold War continues to offer important opportunities for the US to lead the international community away from dependence on nuclear weapons.

They advocated a supportive stance towards Russia, with an emphasis on reassuring the Russians that the US does not threaten their security, treating Russia as a great power, and assisting economically and technically with measures to enhance the security and control of Russian nuclear assets. Some were critical of the expansion of NATO, and they deplored Russia's increased reliance on tactical nuclear weapons. Considerable risk was associated with the decline of Russian nuclear forces, and members advocated significant reductions in the numbers of nuclear weapons held by Russia and the US.

Members of Group Two considered China not to be an aggressive state, and they thought that Chinese nuclear forces posed little threat to US security interests. They considered conflict between the US and China to be most likely over the issue of Taiwan.

Members perceived nuclear proliferation to be a growing threat best addressed by significant reductions in existing nuclear arsenals and greater incentive structures for nonproliferation.

They considered terrorism to be a growing risk, but most considered it to have been somewhat exaggerated. Members emphasized the limitations of nuclear weapons for preventing or responding to mass casualty terrorist attacks.

They preferred greater international cooperation, an enhanced security role for international organizations, and less unilateralism. The group considered economic and political elements of US power to be more effective than military capabilities for securing US interests. Most exhibited a view of post-Cold War security that was somewhat less prescriptive than members of Group One, but reflected a core preference for pursuing national security within the context of the stability and security of the international system.

### **Group Three**

Though the range of views among Group Three's sixteen members also varied more than Groups One and Four, most considered the current security environment to be safer in terms of the risks of nuclear war against the US. But they considered today's security environment to be much more difficult to manage because of a wider number of actors, including nonstate entities, and a lack of clear parameters defining conditions under which US forces

should be committed to military actions. They were uncomfortable with military interventions in which vital US interests were tenuously related, and while exhibiting a general preference for multilateral security efforts, they also were somewhat skeptical of UN capabilities, and they supported coalitions of convenience where the UN framework is inadequate. Most perceived nuclear weapons as less important today than during the Cold War, but they still considered them to be an essential element of US national security.

The group perceived Russia to be a declining power and China to be a rising power, but for the immediate future they considered US–Russian relations most important for security. They supported scientific and technical cooperation with Russia to help ensure control of Russia’s nuclear assets, but most downplayed the likelihood of loss of control of Russia’s nuclear alert forces. The group varied in its views of China, but most thought that China was likely to evolve to a more adversarial relationship with the US until and unless China undergoes greater political liberalization. Most expected China to increasingly challenge US influence in Asia.

Group Three members considered the threat of terrorism to be very serious, and most supported increased attention to and funding of preventive efforts and reaction capabilities. Some members evidenced concern about the structural impediments to integrating US civilian and military efforts to react to mass casualty attacks.

They considered economic and political elements of US power and influence to be at least as important as military capabilities, but not substitutable for military advantage. As a group, these participants exhibited a world outlook and a view of security that preferred achieving national security objectives within the broader context of international stability, but did not subordinate vital national interests to global considerations.

#### **Group Four**

The ten members of Group Four tended to consider the post-Cold War security environment to be more dangerous than the Cold War era. While acknowledging that the risks of all-out nuclear war between the US and Russia are substantially lower than those that existed between the US and the USSR during the Cold War, most considered the probability of other types of con-



flicts to have increased sufficiently to make the security environment less predictable and more dangerous for US interests. They credited the nuclear stalemate of the Cold War with providing important stability and predictability to key security relationships. And they considered that stability to have been replaced today by ethnic and territorial disputes, increased likelihood of the proliferation of nuclear, biological, and chemical weapons, and greater risks of mass casualty terrorism. Members thought that the nuclear weapons possessed by Russia and China posed the greatest current threats to the US, followed by the employment of mass casualty weapons by rogue states sponsoring terrorism, and terrorist acts by nonstate groups. Also, they perceived the spread of ballistic missile technologies to pose an increasing threat.

Group Four members were critical of US policies toward Russia largely for a perceived lack of accountability and effectiveness. They considered the security and control of Russian nuclear assets to be the highest priority in relations with Russia, and were generally dismissive of concerns about the ability of Russians to safely control their nuclear forces on alert.

Most considered China to pose a growing threat to US security interests, and they expected China to continue to modernize and expand its nuclear weapons capabilities.

They were critical of US interventionist policies in support of contextually variable security objectives that cannot be shown to be of vital interest to the United States. While supportive of military coalitions of convenience, they were skeptical of the United Nations and other international organizations as vehicles for collective security.

Members acknowledged that economic and political dimensions of US power are extremely important for US security, but they did not perceive those elements to be sufficient in the absence of US military superiority. Most exhibited a national and international outlook and a state-centric assessment of the security environment that is most often associated with the body of international political theory broadly characterized as realism.

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## **Volume II: Chapter Three**

### **Evolving Nature of Nuclear Security**

**B**UILDING ON THE DISCUSSION OF THE INTERNATIONAL SECURITY ENVIRONMENT in the previous chapter, we now address perspectives about the evolving nature of nuclear security. Section one summarizes respondents' assessments of risks and benefits associated with nuclear weapons. In section two we shift the discussion to participants' views about nuclear deterrence during the Cold War, followed in section three by perspectives about contemporary deterrence. In section four, we show some of the ways our respondents were thinking about the future utility of nuclear deterrence. Sections five and six address participants' views on extended and existential deterrence, and section seven presents views about the utility of nuclear weapons for deterring attacks in which mass casualty weapons may be used. Section eight addresses the substitutability of precision guided munitions (PGMs), commonly referred to as "smart bombs," for nuclear weapons both for employment and for deterrence. The final section characterizes overall perspectives of each of our four groups about the evolving nature of nuclear security.

As previously explained, all quotes are presented in a manner that protects the anonymity of participants. Quotations are organized to provide a balanced presentation of the range of respondent views rather than reflecting frequency of occurrence. While often given in a shortened form, we attempt to provide sufficient context to accurately reflect the perspective being expressed.

#### **Section 3.1: Risks and Benefits of Nuclear Weapons**

**P**ERCEIVED RISKS AND BENEFITS ASSOCIATED WITH NUCLEAR WEAPONS are inherent in discussions of many topics about nuclear security. For example, they are closely related to assessments of the security environment, arms control processes, and nuclear force structure and posture. Also, as will be shown in this chapter, they are integral to evaluations of nuclear deter

rence. Of course risks and benefits of nuclear weapons also are important when considering whether nuclear weapons can and should be eventually eliminated. Many of those risk and benefit relationships are presented in our discussions of these issues throughout this volume. But we also asked respondents to weigh, in a general sense, their perceptions of the overall balance of the risks and benefits of nuclear weapons, and in this opening section we provide a few of those summary views.

## Perceptions of Risks

Among key risks attributed to nuclear weapons were the possibility of preemptive nuclear strike, accidental or unauthorized launch, adverse environmental effects, and the proliferation of mass casualty weapons. The motivations for proliferation were thought to exist not only for other states, but also for non-state or transnational actors seeking to counter nuclear and conventional advantages of the United States or to deter US intervention in regional conflicts.

- The real problem when there are two nuclear powers is that each fears that the other will try to take their forces in a pre-emptive attack. This factor is built into the possession of the weapon as long as there are two or more weapons states. That risk is actually increased, rather than decreased, by the deployment of a large number of operational weapons for the obvious reasons that you have increased the possibility of the false warning, accidental launch, unauthorized launch, and other things that could trigger a launch on warning.
- The negative aspects of nuclear weapons were obviously tremendously overstated by the opponents of nuclear weapons, who really weren't opposed to nuclear weapons; they were opposed to the nature of American foreign policy, and they simply saw nuclear weapons as the key element of that. Nuclear weapons reasonably designed, reasonably held by responsible organizations, turn out to be not much of a problem.
- There is always the risk that something will go wrong. I doubt that risk has gone up since the Cold War, even despite the [national] labs' complaining. I think their main concern is not safety but reliability.... There is also the problem of our own inadequately secured materials. Nuclear weapons are dangerous, and it would be better not to have them. I don't think the differences for us, the risks we incur as a result of our nuclear weapons, have changed.

- The arguments about fragile nuclear arsenals and unstable nuclear arsenals seem to lose credibility when you add decade after decade after decade of operational experience, with thousands of nuclear weapons being deployed all the time, without a nuclear weapon going off by accident. We haven't had one nuclear weapon fired by accident. We've had a couple of airplanes crash with their weapons breaking up. Neither we, nor the Russians, nor the Chinese, nor the British, have ever had an experience in which a nuclear weapon was launched or detonated by accident.
- The argument that the Russian nuclear arsenal is decaying to the extent that it could possibly lead to an accidental launch is foolish. The Russians are highly capable technically in a command and control sense. The chances of an accidental launch are no greater now than they were in the past. The danger of accidental launches from US soil or Russian soil is infinitesimally small. The forces are largely off alert now; I don't think that is related to a chance of an accidental launch. It has never been a concern for the Russians nor us. The Chinese are so cautious and so prudential in their use of power that I can't envision an accidental launch of their forces either. Among the great powers, the idea of an accidental launch is an interesting and clever argument, but not terribly persuasive.
- It was through the efforts of others, not least of which was the *New York Times* and [news] magazines to examine in more and more detail what was really going on at Savannah River, at Hanford, at Rocky Flats, at Oak Ridge, and coming to the realization that it was a catastrophe, and it was so bad that it had to be shut down, because it was unhealthful and not safe. ... And now, of course, much of what the Department of Energy does is cleaning up the mess it made over a period of fifty years to the tune of what will be hundreds of billions of dollars overall.
- The chief danger to the United States is legitimating the use of nuclear weapons. ...the one thing that could wreck the US as we know it is a single nuclear weapon hitting a city.

## **Perceptions of Benefits**

The major benefits attributed by most participants to nuclear weapons were their value for deterring nuclear attack against the US, its military forces, and its key allies. But some perceived other benefits such as maintaining US status and international influence and for prevailing in wars that threaten the survival of the US.

- It's still an important element of being a superpower. You're not one if you don't have a lot of them [nuclear weapons]. You are a power if you have some—even North Korea.... Even the threat of having a few nuclear weapons makes them a player. If you don't have those or the equivalent, you're not a superpower. And the equivalent is going to be a long time in coming.
- The deterrent advantage of having a significant American military presence in Europe and in East Asia is undeniable. The deterrent pressure that exists there is constructive and worth the risk.
- The prestige that was attached [to nuclear weapons] was as our most totemic objects, and it was not closely scrutinized by people in the United States foreign policy establishment who today still retain an exaggerated notion of how much power—that is, effective influence—nukes exert. ... It is not clear there is evidence that even any threat to use nuclear weapons was effective in changing the behavior of another state.
- For nations, I see the possession of nuclear weapons providing, if not an ultimate guarantee of national survival, then certainly an ultimate force to be reckoned with if their national survival is threatened. It guarantees their place on the map in a different way, and I don't know whether you can call that prestige, or whether it is more a tool of survival—the ultimate survival weapon. ... It is a way of saying [that] I won't go quietly into the night when faced with even overwhelming conventional military might.
- ...I'd start by dividing the world into those who think nuclear weapons are basically irrelevant, worthless, negative, and counterproductive, and those who think they were either constructive or helpful or decisive or essential or imperative. I'm not among those who thought nuclear weapons were worthless, [because] when you have nuclear weapons you acquire some deterrent benefit. The questions are how much, and what does that do for you? Which of your security problems does it solve, and what security problems does it cause? Ultimately, you have to do a kind of cost/benefit analysis.
- The fact that we're not giving up our weapons, because we feel that they're very important for our own national security, does send the message to other countries about the value of nuclear weapons. There are costs involved in going nuclear that have become more and more apparent; but, on the other hand, many countries see benefits. They may acquire these weapons and then bargain them away. They can be very valuable, geopolitically.

## Balancing Risks and Benefits

- ...the primary benefit and purpose of our nuclear buildup was to deter the use of nuclear weapons by the Soviet Union [and] invasion by the Soviet Union of Western Europe.... Later, there was the possibility of using nuclear weapons in certain limited contexts. Whatever benefits there might have been, they are no longer there, because the threats are no longer credible threats. Therefore, we don't have any of those benefits, but we have most of the risks we had during that period. Today we have the risk of accidental nuclear war. We have the risk of deliberate nuclear war, albeit extremely remote at this stage.
- It might be that the gap between costs and benefits is narrowed a bit, maybe even significantly, since the Cold War ended. But I still think the benefits outweigh the risks.... It seems that there was one set of costs during the Cold War, and there is a different set of costs now. Still, in the calculus of costs and benefits, the benefits still outweigh the costs....
- While the benefit of our nuclear weapons is that they draw lines on permissible behavior and action, the risk is that we encourage other people to believe that nuclear weapons are still a measure of power. The US wants to say to the world: "We're going to possess nuclear weapons, and you won't, but you have our assurance that they're not a fundamental measure of military power." To which countries say: "Nonsense. If you think nuclear weapons are important, you keep them. If you don't, you get rid of them."

## Section 3.2: Nuclear Deterrence and the Cold War

**F**EW ISSUES ARE MORE CENTRAL TO NUCLEAR SECURITY THAN THOSE relating to nuclear deterrence. Because it is impossible to prove why conflict does not occur, views about nuclear deterrence are necessarily based more on beliefs than on empirical evidence. As expected, our participants expressed a wide range of opinions about multiple dimensions of deterrence. In this section, we illustrate respondents' views about the utility of strategic nuclear deterrence for preventing nuclear war between the Soviet Union and the US and their respective alliances during the Cold War.

Some participants believed that nuclear weapons prevented the kinds of large-scale struggles that characterized the first half of the 20<sup>th</sup> century. Others questioned this assumption, countering that such a conclusion is unwarranted be-

cause the related premises are not provable. Nevertheless, most respondents agreed that nuclear weapons evoke a visceral psychological reaction because of their destructiveness, and whether provable or not, many of those we interviewed thought that nuclear weapons exert a restraining influence on the behavior of states. Others pointed out, however, that nuclear weapons did not deter conflict between nuclear armed states and non-nuclear states, and that they have long posed serious dangers that exceed their putative deterrent value.

### **Deterrence Kept the Cold War Cold**

- The great advantage that nuclear weapons brought, theoretically and through the Cold War practically, is that unlike all previous history, they made clear to the rational decision maker in advance that there was no way to gain assured victory. The costs were simply too staggering [and] the risks too great, so that on day one there could be virtually no hope of prevailing in a meaningful way.
- ...the role of nuclear weapons during the Cold War was one of deterrence...they deterred the other side from using its nuclear weapons. ... Nuclear weapons were not something you could use to fight the war, unless you wanted to be attacked with nuclear weapons yourself. Both the United States and the Soviet Union, for thirty-five to forty years, made absolutely clear that they would do almost anything to avoid that.
- I would point to the Gulf War and much of what we know now coming out of the Russian Federation archives about the role that US nuclear deterrence played in the minds of the Soviet leadership. In several cases, it looks like it was extraordinarily important in moderating their behavior.
- The only real use for nuclear weapons has been, and continues to be, as a deterrent. The idea that a rational leader would use nuclear weapons has been far-fetched since 1945 when the US and the Soviet Union began going at each other, and it's even more far-fetched today. A lot of the theories they used in those days about fighting and winning a nuclear war were nonsense. You would hear these arguments about how "they have this number of nuclear weapons, so we need more," or "we need bigger or better and smaller nuclear weapons." All that was garbage that led to a huge expansion of nuclear arsenals that was totally unnecessary. The single effective use of nuclear weapons was deterrence. The fact that both the US and the Soviet Union had nuclear weapons helped to deter, not just using nuclear weapons, but other actions that could have led to nuclear war.



- Nuclear deterrence was spectacularly successful. Now, if your real question is did we require nuclear weapons in order for the deterrent postures of the United States and its allies to be effective, the answer is yes. Because if they [the Soviets] had decided that this was another war like the one they'd just finished with the Germans, then how much worse could it be? They lost twenty to thirty million people. ... Since we weren't prepared, in turn, to put in place the kind of conventional military force that would have been deterring at that level, it made sense to overlay all of that with a nuclear component in which they [the Soviets] fully appreciated how difficult it would make their life if war should come. But it obviously required that we do both. That is, we had to maintain some level of conventional force capabilities and overlay them with nuclear capabilities. So the nuclear weapons were necessary, but they were not sufficient.
- Nuclear weapons were a sword of Damocles over our heads, causing us to think about life more carefully, and to be cautious in our behavior. What it really meant was that we avoided the big decisive wars, and we avoided nuclear war. Underlying the notion that nuclear weapons prevented the Third World War, they did, nevertheless, create an environment in which there was not only competition, but there was a considerable feeling that one had to be careful about upping the stakes, and you have results like Korea and Vietnam and Afghanistan.
- With the Soviets it [nuclear deterrence] seems to have been centrally important in preventing conflict in general because of the degree to which we both couldn't find a definable superiority, and because the gravity of the threat was such that it forced some reconciliation through very arcane means. But it forced some commutative levels—communication, regulation, and so forth—and so it was tremendously important in that case.
- We had all those other weapons, and two World Wars occurred. It might be argued that maybe just the terror of remembering World War II would have stopped us from ever going into World War III. Maybe, but I think it's highly more likely that nuclear weapons prevented World War III.

## **Reservations About Cold War Deterrence**

- ...it is still an open question as to whether nuclear weapons prevented World War III, or whether they, in fact, unnecessarily prolonged and intensified the Cold War. I have increasingly come down on the side of the latter. As former adversaries have had the opportunity to talk, and as archives have been opened, serious scholars are now examining this question at the level of detail essential to intelligent debate. My own view is that both sides in the Cold War were victims of mu-

tual demonization, an emotional hijacking that suspended their capacity to think rationally about nuclear weapons. Mutual assured destruction is not a strategy. It is the antithesis of strategy. It led to an irrational, grotesque amassing of destructiveness, poised for instant implementation, that held at risk the fate of humankind.

- We vastly overprogrammed the deterrent effect during the Cold War and created a more dangerous situation as a result. All along, there has to be a balance between the deterrent effect that convinces a deliberate enemy not to attack and the reassurance that it will be adequately controlled. In order to brandish what we imagined to be an overwhelming deterrent effect, we ran risks of loss of control that were hugely unreasonable. ...the deterrent effect didn't require anything like the large and immediately available force we deployed.
- The argument of whether or not nuclear deterrence prevented World War III is a nonprovable assertion. I certainly cannot say that it's not true. It may or may not be true. People see it as an insurance policy. If you assume the leadership of both sides is acting rationally, then nuclear deterrence is a stabilizing thing, and by that I mean assured annihilation. ...people found nuclear deterrence stabilizing during the Cold War; I can't argue with the fact that it was stabilizing.
- Do I think there would have been a World War III if there had been no nuclear weapons or nuclear deterrence? I don't know; I wouldn't want to bet money on it, but nuclear weapons certainly made the superpowers more cautious. The extent to which they really underwrote stability is something we should associate with the second half of the Cold War or the second two-thirds, but not the first fifteen years. But they had to make both sides more cautious, given the costs of an unlimited nuclear war. Beyond that, it's hard to say.
- The more I have come to understand about the US and Soviet relationship during the Cold War, the more convinced I am that our deterrence relationship was a dialogue of the deaf. It was largely a bargain we in the West made with ourselves. The Cold War was an extremely dangerous drama of mutual misperception. What we perceived as a secure second strike capability looked to our adversary like a credible first strike posture, and invoked an heroic effort to survive and respond. Perfect stability demands perfect invulnerability which equals perfect vulnerability which gives rise to an arms race of cosmic proportions. In the world of nuclear deterrence, the answer to the question, "How much is enough?" is "Whatever it takes." From that perspective, there will never be enough.
- The fact that we have had nuclear weapons for the last fifty years has not necessarily been the reason why we have not had another world war. It can be argued that the Soviets never wanted to invade Western Europe, and that their security interests were primarily oriented toward self-defense. A thousand years

of their history is really focused on self-defense of their borders in many ways, so it's arguable that nuclear weapons really had a serious role in deterring Soviet attack on Western Europe.

- Deterrence worked only under two assumptions, neither of which has ever been demonstrated to anybody's satisfaction. The first was that the Soviet Union had malevolent intent in Europe or against Japan in a serious way. That looks to be untrue in so far as we are now getting at the documentation. The second is that there was some relationship between the particular plans, operations, and numbers of warheads that we had and deterring them by threat of punishment. The answer is that anybody who thinks *that* is why we acquired what we acquired ought to have his head examined.
- A lot of the beliefs [about nuclear deterrence] are "religious." There's no empirical evidence about whether deterrence does or doesn't work. There are arguments; there are assertions; there are interpretations; but ultimately it's people's gut feelings. The single most powerful purveyor of the proposition that nuclear weapons were fundamentally important and essential to state security has been NATO and the United States, along with their friends, the Soviets, and now the Russians. But we, even more than the Soviets, spent fifty years telling people nuclear weapons really matter; they really work; they deter all kinds of neat things.

### **Section 3.3: Nuclear Deterrence Today**

**O**PINIONS ALSO VARIED WIDELY ABOUT THE EFFICACY AND UTILITY OF nuclear deterrence in today's security environment. Although many respondents judged its importance to be declining relative to the Cold War, most considered nuclear deterrence to continue to be important both for US security and for stability of the international system. We group the following comments into those pertaining to (a) the changed importance of nuclear deterrence compared to the Cold War era and (b) assessments of the contemporary relevance of nuclear deterrence.

#### **Past vs. Present Nuclear Deterrence**

Even among participants who had little doubt about the efficacy of nuclear deterrence, most agreed that the importance of deterrence in today's environment has declined from that attributed to it during the Cold War. The follow-

ing comments illustrate how some respondents perceived the relative value of nuclear deterrence to have changed compared to the earlier period.

- It [the role of nuclear deterrence] is greatly reduced, and my guess is that it's more delegitimized than a lot of national security elites have come to terms with. It's reduced in the sense that we spent most of the Cold War worrying about how to deter the Soviet Union. ... To the extent that we still worry about deterring Russia, it's a smaller problem than it used to be. China is still a long way from having anything near a capability that would make us worry about the requirements of deterrence in traditional terms. ... My guess is that some national security elites who used to be comfortable with the policy of relying on retaliation against population centers, assured destruction, and things of that sort, probably have not faced up to how little support there is for that anymore. ... Today, the idea of deliberately retaliating against civilian populations for transgressions of their government or a group would be much more controversial.
- During the Cold War, one could describe deterrent relationships as elements of our immediate political environment. Deterrence still exists, but it's far beyond the horizon. Deterrence could reassert itself if we establish antagonistic relationships with a state. It's not something that we think much about, because we don't have the antagonistic relationships with nuclear powers that we did as recently as a decade ago. ... When you remove the prospect of imminent political hostility, deterrence has a less important and decisive effect on how we operate within the international system.
- One of the great successes of the passing of the Cold War period is that we have put strategic nuclear weapons into the background. It is not that they are gone, and it is not that they are not a concern, but we know they are in the background. It would be a mistake and a great failure to have them moved back to the foreground of our dealings with any country. So you can have a strong and stable deterrent and still have a very high threshold, a very conservative approach to use, and a very strong norm against use.
- Nuclear weapons were much more important during the Cold War, because we were dealing with an adversary that we thought was at least comparable in power, and according to conventional wisdom, it was superior in terms of conventional forces to overrun the territory we were most concerned about—Western Europe. That threat doesn't exist today. There is no place that we value as much as we did Western Europe where we cannot contest conventional action by whomever it is we're worried about. So that's the crucial difference.

- I suppose it [nuclear deterrence] was more important during the Cold War, because now the threats we face, even though nuclear weapons are more likely to be used, our conventional superiority is so dramatic compared with the emerging nuclear powers that conventional forces now play a bigger role than they did in the past.
- The role of nuclear weapons in our overall strategy has actually declined quite significantly. First, because the threat from the Soviet Union has declined. ... And second, our current conventional military power compared to that of any adversary, including the Russians, is so overwhelming that we simply don't have to rely on nuclear weapons as much as we did in the past. In any event, I see nuclear weapons as the weapons of last resort, and generally, the nuclear threat should be unstated explicitly.
- The role of nuclear deterrence is far less than it was, quite obviously, during the Cold War. ... Since we now have clear conventional superiority in most of the world, it means that we have no pressure to initiate the use of nuclear weapons in a crisis. And that has reduced our degree of dependency on nuclear weapons.
- We have not sorted out the central role that nuclear weapons should play in this security environment. To me, the central role had always been in a sense the existential one of deterring a nuclear attack against our allies and us. Now, as a general proposition, that problem is much less pronounced, although not gone. ...as a result, the role of nuclear weapons has diminished too.
- It's stated in our national strategy documents that are issued by the president that deterrence is still the underlying rationale for why we possess nuclear weapons, and it's left a little vague about who it is we're deterring and what we're deterring and what we're able to deter. But again, that's probably a carryover from fifty years of talking that way, and we don't know how to talk differently.

## **Does Nuclear Deterrence Still Matter?**

Clearly, some respondents considered the importance of nuclear deterrence to have substantially decreased relative to its strategic prominence during the Cold War. Even among those who shared this view, however, few were willing to say that nuclear deterrence no longer matters. Most of our participants thought that nuclear deterrence continues to be a critical component of US security today primarily for deterring the use of nuclear weapons against vital US security interests. But few offered arguments that nuclear weapons provide substantial benefits beyond their deterrent role, and some noted that even that role is open to question.

- The situation in the past was that the US depended upon a strategy of introducing nuclear weapons in the event of a massive conventional attack. That has disappeared; nevertheless, the need remains for maintaining a deterrent against other people's use of nuclear weapons, particularly if the US accepts the responsibility for maintaining international stability as the chief constable of the world. We need to have a nuclear deterrent.
- Nothing deters as well as nuclear weapons. They are increasingly unusable in a political sense, but we would be foolish in the extreme not to possess some minimal force of nuclear weapons. ... We still need the ultimate deterrent, because it covers all of the contingencies; it draws a line; it establishes a threshold. In a sense, it simplifies our planning and how we understand the world.
- Deterrence is still very important. What's it important for? If you have to say it in one or two sentences, it's really the prevention of World War III. ... Deterrence is really the bedrock of how we progress with civilization. It really is like, are you going to give up penicillin or other types of drugs that we now take for granted?
- We need to continue to make clear to any country that seeks to attack the US that we are prepared to retaliate, and that the cost to them would far exceed the benefits that they might seek to gain. I don't believe that we should go about making nuclear threats irresponsibly, but I think the core of our policy still should be deterrence—not hysterically employed, but in the background. ... Everybody who might think they can gain something by attacking the US or its forces or its major allies should know that the US is prepared to retaliate.
- We should have, and we do have, a large enough nuclear deterrent to ensure that nobody can dream of using nuclear weapons first against the US. Of course, what we have today is a nuclear force that is much bigger than we need for that purpose. But I'm a believer that you do want to have some significant multiple of that minimum requirement. You want to make counterforce operations toward the US unthinkable. You want other states to dismiss that notion as impossible and not worth serious consideration.
- I see their [nuclear weapons'] role as deterring the use of nuclear weapons and maybe having some spillover effects by keeping people from becoming involved in a war with us. I wouldn't want to put too much weight on the latter. It's mainly a deterrent against the use of nuclear weapons against us.
- The key to deterrence is that it is the tool that manages nuclear states when they are in a fundamentally confrontational relationship. We don't need to deter Britain and France, although they are other nuclear powers. But we do need to deter Russia and China, because the fundamental political relationship is confrontational.

- You've still got the Russians and the Chinese who are capable of their own volition, and at any moment, of doing harm to the United States and its interests abroad. Our nuclear forces deter that kind of activity through threats of retaliation.
- [Nuclear deterrence] is important, but it's completely unnecessary for us to overtly threaten the use of nuclear weapons. ... I certainly worry about Russian leaders, on their own, doing something detrimental to US national security. But as a state, I'm not worried, and the reason I'm not worried is because of the deterrence of our nuclear forces. Our deterrent force operates both in the traditional bipolar realm as well as in that sort of new security environment we face. It's very significant, and I'm not in favor of getting rid of nuclear weapons in the immediate future.
- Nuclear weapons in the hands of great powers are probably a positive force. I believe in deterrence. A lot of trouble has been caused in international politics among great powers by people's fear of their own vulnerability, coupled with their belief that there was something militarily they could do about it.... Nuclear weapons make it a lot harder for that to happen.
- There are a number of things [the US can do to prevent the use of nuclear weapons]. One is to maintain an unquestionably strong deterrent so there is absolutely no question in someone's mind of devastating retaliation or devastating results from their use against us or against our allies and interests. The second necessary thing is building up the international norms against acquisition and use—particularly use. There are lots of different ways to do that, and while I think a strong and stable deterrent is probably the most important, the norms issue is also crucial.
- The main benefit of maintaining the deterrent is trying to ensure that no adversary again challenges us first and foremost on the nuclear front. It is this idea of keeping the weapons in the background as opposed to the foreground so that they do not become a focus of any kind of future rivalry.
- The main utility of nuclear deterrence is to prevent an adversary's nuclear use. ... In the case where you have two countries who have the capability to destroy one another with nuclear weapons, and who have fundamental survival interests at stake, there is definitely a degree of caution induced, which may, to a degree, help to prevent conflict. But when you get to other situations where either one has nuclear weapons and the other doesn't, or less important interests are at stake, then I don't think you can credit nuclear deterrence with preventing conventional conflict.
- I don't think nuclear deterrence is playing a very active role today...the United States needs to maintain a nuclear posture such that no one, however demented they are, can think that they can challenge that posture. Is that nu-

clear deterrence? It's not deterrence in the same way it once was. ... We don't need nuclear weapons to exert force, but we need them for deterrence, given the fact that other nuclear weapons are out there.

- There is no defense against nuclear weapons, though we may have some theater missile defense someday that can thin out an attack. We can defend ourselves against chemical weapons; we can defend ourselves against biological weapons; but we can't defend against nuclear weapons. We have to deter them. ... We can talk about national missile defense, and we could stop a handful of warheads, but we have to deter the use of nuclear weapons; that's our only real defense against them. That's completely different than any other kind of weapon.... Consequently, deterrence against anyone who has the capability to use significant numbers of nuclear weapons remains, in my view, the number one national security requirement. And there's not much argument about that in national security circles.

For others, the conceptual underpinnings of nuclear deterrence still invoke important questions about which more understanding is needed. The following three commentaries illustrate such reservations.

- ... Despite all our promises in the past that nuclear weapons ensure deterrence, and that we have to have "X" number of types of nuclear weapons to ensure deterrence—we don't know whether that's true or not. There's no other way but to conclude that, if you look at the empirical evidence, we don't know whether the specific promises made on the behalf of nuclear weapons are true or not....
- A lot of work was done thinking about the basic logic of deterrence [and] most of that work is still basically sound. The logic still basically applies because, to some degree, it was based on trying to understand psychologies generally. Specifics of deterrence vary according to who, what, when, why, and where, and this is the case where we probably do understand less and need to learn more about what really is the case with specific actors and scenarios.
- At the end of the matter, if you've read every book on every library shelf ever written about deterrence, it all comes down to one simple proposition: deterrence is in the eye of the beholder, and you cannot know what that eye beholds. ... The odds are it perceives a very different message than is intended. That is because deterrence theory is shot through with fatal flaws and irresolvable contradictions.

But others were concerned about what they perceived as current trends among the security policy community to devalue nuclear deterrence.



- We have to get out of denial that nuclear deterrence still has relevancy. The public policy effort over the last ten years has been to try to move nuclear weaponry and deterrence into the background, with some success. There have been costs associated with this policy, including the fact that there hasn't been a lot of effort to understand what the nature of deterrence, now and in the future, is all about.
- Nuclear deterrence has become almost a bad idea to some, though not to me. ... I'm talking about the elite view, or the administration's view. Some policy elites believe that nuclear weapons no longer have a role to play, and that deterrence is no longer a good idea. I don't know what the polity thinks.
- Based on the empirical evidence that we have available, nuclear weapons worked for deterrence. That's not a very happy message in Washington where abolition is the name of the game for many. One of the usual pieces of a mantra for nuclear abolition is that nuclear weapons provide no regional deterrent utility. According to the empirical evidence that we have, that's not true. Nuclear weapons provided regional utility, or at least they did in the Gulf War. ... I suspect that we will run into leadership that is extremely cost tolerant, extremely risk tolerant, and extremely highly motivated. In that case, it seems to me that nuclear weapons can be important to deterrence working or not.

### **Section 3.4: The Future Efficacy of Nuclear Deterrence**

**W**HEN WE ASKED RESPONDENTS TO DISCUSS THE FUTURE OF NUCLEAR deterrence, it often was assessed within the context of other issues such as nuclear infrastructure, nuclear testing, beliefs about the viability of the current international structure, the role of other "softer" elements of power, and the prospects for further nuclear proliferation or the possibility of eventual elimination of all nuclear weapons. Many of those comments are better placed in other sections and chapters dealing more specifically with those subjects. Here, for purposes of comparison, we have separated comments about the future of nuclear deterrence from most of those contexts, but we note that future projections were almost never made without caveats about related future policies and behaviors. But caveats notwithstanding, most of those we interviewed considered nuclear deterrence to be a likely aspect of the security environment for the foreseeable future.

- The fundamental role of deterrence in the 21<sup>st</sup> century is to say to adversaries or enemies that if they threaten the US, in the most extreme case, we can destroy them. This means that states should not attack the US, should not attack Ameri-

can forces overseas, and should not attack American allies in an extreme sense.... It has always, and will always, continue to represent the ultimate threat of national suicide if you pose a threat to a state that is armed with nuclear weapons.

- You can't take nuclear deterrence off the table, because it will be an important element of our strategy to maintain for the foreseeable future. I don't believe that you can get to a world of stable nuclear disarmament, but you can get to lower levels of stable deterrence where you have fewer weapons. ... You can take the numbers down substantially and still have a strong and credible deterrent, but you want to make sure that no country ever really thinks about using nuclear weapons against the US or our vital interests in any manner. You can't escape it [the need for nuclear deterrence]; it's always going to be a part of our policy or an important element in the equation. However, it can be in the background.
- The problem is that the more countries that get the capability to inflict a nuclear strike on the United States, the greater the chance that nuclear weapons won't work as well for deterrence.... So the efficacy of US nuclear deterrence, in terms of deterring a nuclear strike on the American homeland, decreases as the number of players who have the capability to strike increases. But, as of today, that aspect of nuclear deterrence is probably just as good as it was during the Cold War.
- Deterrence is still important. We should say that our nuclear weapons are there for deterrence. We should keep a strong nuclear arsenal for purposes of [detering]... any other country that has nuclear weapons. Nuclear weapons are for the long-term, not just for today. They could be used generations from now; that's fine with me. They might never be used, and that would be all the more fine.
- Nuclear weapons have a symbolic value. They have a real value for deterrence if the numbers go down. I don't see them going to zero any time soon. They're always going to be there, but people generally realize that they are a much smaller part of the problem of stability and success in the world.
- If you project ahead a decade or two about what you would like the relationship between the United States and Russia to be, and then think about how you get from here to there, the notion that deterrence matters a lot is absurd. Indeed, it's getting in the way, particularly of the nuclear things we ought to be doing with Russia.
- ...rather than share the weapons, share deterrence from the existing inventories. That's the theory of a shared deterrence regime. It is not saying that the existing nuclear powers provide a retaliatory capability by action of their own forces. It is saying that if there is a nuclear attack, a victim should have an assurance that the victim will have a retaliatory capability. And from that should flow the deterrent advantages that discourage the attack in the first place.

- Think about the non-proliferation regime and the possibility that it is no longer viable in light of what the Indians and Pakistanis did. It may be that we need to contemplate, at some time in the future, the kind of regime which would say, we can't keep people from having nuclear weapons, but what we can say is that we will come to the assistance with nuclear weapons of any country against which a nuclear weapon is used. That is implied in the NPT, but it could be made more explicit, so that anybody who uses a nuclear weapon will be subject to retaliation with nuclear weapons. That's still a deterrent.
- Deterrence will continue to play a role, and the way to reduce people's incentives to threaten us is to have more nuclear weapons than they do and to be able to devastate them. That has implications for long-term investment.
- We must continue to have a strategic nuclear capability to act as a deterrent, and future presidents have to be willing to use nuclear weapons, or else they're not a deterrent. ... Our security policy should continue to include strategic deterrence, and that means that we have to have some nuclear weapons for that purpose.
- One could foresee a future for the world where you would never have another major conflict, because you have nuclear weapons. If you did not have nuclear weapons, it would be impossible to foresee a future in which over the next hundred or two hundred years we will not have a major conflict. We lost probably a hundred million people in major wars during the 20<sup>th</sup> century. You could easily see the 21<sup>st</sup> century experiencing maybe one-tenth of that, or maybe even less.
- As long as we have conventional superiority, others are going to turn to the kinds of strategies that we ourselves followed in the Cold War, which is to reach for nuclear weapons. And a principal purpose of nuclear weapons is to keep a lid on all of that. The greater the degree to which the United States takes responsibility for being the ultimate source of international stability, the greater will be the need for us to maintain a substantial nuclear deterrent.
- There are lots of nations who are going to have a few nuclear weapons; that's inevitable; but they're not members of the nuclear club; they just have a few nuclear weapons. They can threaten their neighbors, but they cannot threaten the United States. Nobody is going to attack the United States with a handful of ICBMs, because every one of those ICBMs carries a return address, and you don't pinch the eight hundred pound gorilla when you are within arm's reach.
- The need for a nuclear deterrent has shrunk; it is not going to vanish; it is going to grow again as the preponderance of the United States in the international community shrinks over the course of the next thirty or forty years.

## Section 3.5: Extended Nuclear Deterrence

**R**ESPONDENTS EXPRESSED WIDELY DIFFERING (AND OFTEN SKEPTICAL) views about the concept of extended deterrence—the theoretical extension of a US nuclear umbrella to deter large-scale attacks against key US allies. Most considered its primary purposes to be alliance maintenance and nonproliferation. Others considered extended deterrence to have had questionable credibility during the Cold War, and judged whatever marginal utility it might have had during that period as no longer applicable. Some considered it to have continued relevance, but many thought that the concept was of declining importance in today's security environment. The following commentaries are grouped into those addressing the contemporary viability of the concept of extended deterrence, and those pertaining to its implications for helping contain the spread of nuclear weapons.

### Efficacy of the Extended Deterrence Concept

- As for the extended deterrence notion of trying to use nuclear weapons to put a security umbrella over other countries; well, that was a very, very tenuous notion. Even our allies didn't believe that we would trade Bonn for Chicago and things like that. The Soviets didn't believe it either, and when it came right down to it, we probably would not have made the trade. Of course, the nuclear umbrella served other purposes. The purposeful ambiguity over whether or not we would have used those weapons did provide a backdrop to the notion of collective defense—Article V of the NATO charter, those sorts of things. It gave the appearance of extended deterrence, so that if somebody wanted to believe in it, the forces and the concept were there so they could believe in it. They may have been politically useful, [but] militarily it wouldn't have mattered that much.
- Clearly, extended deterrence is no longer a major issue. We don't look to nuclear weapons to enhance our capability to defend against or to deter conventional aggression. We've adjusted appropriately to that by drawing down our theater bases and weapons. Because we don't have any immediate flash points with China or Russia, and because our conventional capabilities are mostly adequate, these kinds of risks have declined.
- Where is this [extended deterrence] an issue for the United States anymore? The tables have turned completely, and now it is the Russians who have to worry about nuclear first use. We don't need to threaten the first use of nuclear

weapons. So, extended deterrence is not now an issue for the United States. Countering extended deterrence, or however you might define it, is an issue.

- [Extended deterrence] works, but it's different depending on the allies you talk about. We're locked in with France and Great Britain, plus they have their own [nuclear weapons], but their forces are integrated with ours. ... As to Germany and Japan, you have an umbrella there. Now that we're in a different environment, the umbrella is a little more complex. It's not clear who we're using the umbrella against. We're potentially using the umbrella against Russia, and potentially maybe China. On the other hand, if you talk to the Russians, they think China is the major threat, certainly not the US or France or Great Britain. So I'm not sure quite how that umbrella plays any longer. It's a different sort of umbrella.
- We still need to maintain a deterrent to protect the United States. The question is how broad is that umbrella? In other words, do we have an umbrella over Pakistan against nuclear use by India? A little dangerous, perhaps, to do that, because it inevitably draws us into a conflict in which our national interests are only marginally concerned.
- The overall security gains for countries like Germany and Japan from the reduced possibility that they will be attacked and other improvements in the international situation that are a part of this scheme [deep reductions] more than compensate for the loss of extended deterrence. ... these countries place or are moving to place greater weight on restrictions on nuclear weapons and on nuclear disarmament than they attach to extended deterrence.
- There is such a thing as Article V of NATO, and we are supposed to have a nuclear umbrella for our allies. So, if somebody decides that they're going to take over Great Britain or Germany, we have nuclear weapons for that. I take those commitments seriously. We have told a lot of people that we're sheltering them with our nuclear umbrella. I don't see any enemy who's going to attack them and try to take them over, but that's part of why we have nuclear weapons.
- NATO could never know whether or not the United States would respond fully and quickly with nuclear weapons if the security of Europe was threatened. ... Whether or not the US will use nuclear weapons in defense of an ally is unknowable in reality, although in practice we should say, and we do say, that we will.
- Nuclear capabilities are primarily directed at other nuclear capabilities, despite all the talk about extended deterrence in its various forms. The record says that the extended deterrent effect is pretty weak; it's not very credible, and it's weak. People will fight in the face of a nuclear weapons capability; there is a lot of evidence to that effect.

- There are at least two kinds of extended deterrence. There is extended deterrence against invasion, and extended deterrence against nuclear attack. ... I can't see us going back to extended deterrence against invasion anywhere in the world. But we're going to have to take our lumps and lose our wars, so far as we find ourselves up against conventional adversaries that we can't defeat conventionally. I'm not so sure that we would have gone nuclear in the Cold War either. If the Soviets had invaded, and our forces had failed to hold, I do not believe we would have used nuclear weapons.
- There's still something to that [extended deterrence]. It's not directed against the Soviet Union the same way. You still have to worry about Russian power, but not in the same way. I guess Japan's obvious worry is China, and extended deterrence is a broad reassurance that is still useful.
- What's important in the deterrence equation, as much as the capabilities that you have, is the perception of your will to use them, and it's the perception of the caliber of US leadership. Should it ever come down to a situation where the deterrence we are extending to the Germans or Japanese, for example, is tested, then how we behaved in the months and years prior to that event, and how they view us as a nation, and our leadership, is going to be more important than the details of the posture we have.

## **Extended Deterrence and Nonproliferation**

- I'm sure, politically, as those countries debated whether they wanted nuclear weapons or not, the fact that they were under the US umbrella helped those debates come out as they did. ... Certain nations find comfort in extended deterrence. Certain nations, I'm sure, would question whether we would use it if pressed. There's a credibility problem with it.
- The parties who are under our "umbrella" know that it is dubious that we would respond with nuclear weapons against an actor who is either hard to identify or whose targets are difficult to define. What purpose has extended deterrence served then? It's probably useful at the margin to maintain enough of an extended deterrence posture to let third parties know that they'd have to develop such a large nuclear posture to match ours that it's really not worth it. Handfuls of weapons won't do it. That's its marginal use; it helps the people in those governments who don't want to do it. But, I expect that countries without an extended deterrence posture are driven more by events in their own region than by our supply of nuclear weapons.

- Where [extended] nuclear deterrence is critical is in keeping certain alliance structures from falling apart and keeping key nations in the zones of peace (South Korea, Japan, Taiwan, or Indonesia) from feeling as though they have to ...acquire strategic weapons of their own. The alliance guarantee is perhaps the strongest case for the US maintaining some level of nuclear weaponry. ...I would make sure that they understand that those guarantees are there, and that they will jeopardize not only the guarantee but a great deal more if they try to acquire their own strategic weapons, because it threatens the integrity of the alliance and therefore the entire zone.
- Extended deterrence is probably less important than it used to be, but it is still important, because I'd rather not see the Japanese go nuclear. I'd rather have them under our umbrella than have another major industrial power develop its own nuclear capabilities. They're concerned about the Chinese, and they might be concerned about the Russians. They're certainly concerned about North Korea. Same for the South Koreans—the South Koreans have expressed interest in nuclear weapons at various points. In the 1970s, we shut down one of their nuclear programs, as well as that of the Taiwanese. I'd rather not have them go nuclear. So extended deterrence matters. It's a little bit different than it was before, because it might not be as important to provide extended deterrence to prevent others from going nuclear as it is to deter real threats. ... It probably matters less in Europe than it does in Northeast Asia. Extended deterrence is still there; it is probably not as central as it was before, and it's playing a bit different role.
- I have some concern about some of our traditional allies and whether, over time, they may feel that they cannot rely as heavily on the United States for their own defense needs—that they might choose more independent defense postures, which, in turn, could cause greater instability or greater uncertainty in their regions.
- [There is a] large number of countries that have the means to go their own route on WMD, but who have chosen not to because they're part of an international security architecture for which the US provides, in essence, the umbrella. As a result of having had sound security, they've enjoyed tremendous growth in freedom and prosperity.
- The Japanese have told us publicly that if they can't have confidence in our extended nuclear deterrence, they will have to have the will to do it themselves.

## Section 3.6: Existential Nuclear Deterrence

**W**E FOUND VARYING INTERPRETATIONS AMONG OUR PARTICIPANTS about the meaning and implications of existential deterrence. Since McGeorge Bundy popularized the terminology, the underlying concept has undergone increasingly broader and less precise interpretations. In Bundy's primary treatment of the subject, he used the term "existential deterrence" to refer to the theoretically inhibiting implications of two dynamics thought to be associated with nuclear weapons.<sup>1</sup> One was the fear of the unavoidable destructiveness associated with their potential employment, and the second was the uncertainty of the behavior of political and military leaders who have nuclear arsenals at their disposal. Together, Bundy argued, these factors produce a deterrent effect independent of strategic theories, declared policies, international commitments, and assumed or actual political intentions. In his conceptualization, nuclear weapons create a deterrent effect based solely on their existence (hence the label existential). He also argued that existential deterrence makes mirror imaging of nuclear weapons capabilities and arsenals unnecessary.

Bundy's construct was advanced in the context of large, immediately available, and highly reliable nuclear arsenals. Since that time, the concept of existential deterrence has been used by some to represent an inhibitory effect that is further removed from quantitative and qualitative attributes of associated nuclear arsenals. In these broader constructs, advocates argue that nuclear deterrence requires neither large numbers of nuclear weapons, nor high states of readiness, nor extensive efforts to ensure their reliability.

The first of these arguments is that existential nuclear deterrence exists independent of quantitative factors. Advocates point to the very much smaller arsenals of Britain, France, and China as examples of how nuclear deterrence is thought to exist at levels of a few hundred weapons, and some argue that substantially lower numbers are sufficient to deter.

The second implication of broadened interpretations is that high levels of readiness are not only unnecessary for existential deterrence, but also are un-

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<sup>1</sup> See McGeorge Bundy's critique of the US Catholic Bishops' Pastoral Letter in Bundy, 1983, p. 4, and his more detailed treatment of the concept of existential deterrence in Bundy, 1984, pp. 5-13.



acceptably dangerous. Here, China's policy of not mating warheads and fueled delivery vehicles is cited, and arguments for dealerting are advanced.

A third implication of this broader construct of existential deterrence is to discount the need for high levels of reliability. As long as any number of nuclear weapons are thought to exist, it cannot be assumed by a potential adversary that they will *not* function as designed. An example of this argument is that North Korea's possible possession of one or a few untested nuclear devices cannot be discounted because they have not been proven to exist or demonstrated to be functional.

Finally, carried to its broadest extension, some attribute an existential deterrent effect to the base of scientific and technical knowledge about how to construct and employ nuclear weapons, regardless of whether any such weapons physically exist. Used in this context, existential deterrence is a product of scientific knowledge, technical production capacities, and "virtual" or "latent" nuclear capabilities to develop, produce, and employ nuclear weaponry.

These evolving interpretations can be thought of as a sliding scale of deterrence that is being employed differently by opposing sides in various debates about deep numerical reductions, dealerting and other force posture issues, prohibitions on nuclear testing, nuclear infrastructure investments such as stockpile stewardship, strategic defense considerations, and arguments about the feasibility of eliminating all nuclear weapons. Given these perturbations and extensions of the original construct of existential deterrence, the concept seems likely to continue to figure importantly in debates about the future of nuclear security. Though competing research priorities did not allow us to probe each aspect of the evolving nature of existential deterrence with each participant, we summarize some of their associated comments below.

- Existential deterrence is fairly significant, actually. Let's imagine that somehow we did literally dismantle and disperse all the nuclear weapons.... The capacity to regenerate it [a US nuclear deterrent force] if we really wanted to would require less time than it took us originally to do it, and so anybody programming an attack on the United States would have to take that into consideration. That is a pretty powerful deterrence. No country is likely to win a war against the US if we can regenerate a nuclear weapons capability in the course of it. That is an appreciable deterrent. If it is not actively deployed, we are far

better off, because it's not an immediate thing, and you don't have all these issues of operational control.

- Does the mere fact that you have some number of nuclear weapons provide existential deterrence? Could you get rid of all the nuclear weapons and still get to that same situation, which is what people talk about in existential deterrence? ... Sometimes I hear it talked about in terms of the mere fact that one knows how to build nuclear weapons, and sometimes it's just the mere fact they exist. I think that different countries will have different views on what it does. It sure makes a difference to a country whether they have nuclear weapons or not. It's a *real* phenomenon. Why is India developing nuclear weapons? Because they make a difference.
- We have not sorted out the central role that nuclear weapons should play in this security environment. To me the central role had always been, in a sense, the "existential" one of deterring a nuclear attack against our allies and us. Now, as a general proposition, that problem is much less pronounced, though not gone. While there are circumstances under which it could arise again, [given] present trajectories, the "existential" threat has considerably diminished, and as a result, the role of nuclear weapons has considerably diminished, too.
- I also believed in existential deterrence during the Cold War. Despite all the worries about the nuclear balance, there was enough risk to make everyone extremely prudent. ... Existentialism depends most on the image of the US as a great power having nuclear weapons and under some certain circumstances being willing to use those weapons. So unless you're dealing with China or a reassertive Russia, for most other contingencies, the technical aspects matter much less than the psychological ones.
- Existential deterrence is an absolutely bogus concept. It was a sickness that developed during the Cold War in which, for the first time in human history, academics wrote military policy rather than people who had actually fought a war. The notion that you can deter anyone with something that he does not believe you might actually use is ridiculous. Ask any cop on the street about this idea. The fact is, the criminal needs to believe that the gun on the cop's hip is not only real, but it's loaded, and the guy just might use it if he's pushed. That doesn't mean the police go around trying to shoot people. But believe me, the moment the police department says our policy is that all weapons will be unloaded, or we will never use a weapon, or we're fusing the thing on the holster so he can't use it, it ceases to be a deterrent. You have got to believe he might use it. And that's the problem with weapons. We got too esoteric during the Cold War with all these calculations and what not. The only thing that worked is somebody believing it's real, which means, if you want to deter with nuclear weapons, you cannot separate the concept from the potential use.

- The role of nuclear weapons is determined by circumstances. It's important that people understand that. ...can I imagine a world in which they have no role? Not unless you give all physicists lobotomies, because even after you've dismantled everything, the ideas and thoughts will still be there, and proliferation will be latent. Some people exaggerate that and say the result will be virtual deterrence. Let's not push that too far, however. I understand the principle, the thought that there is a political impact even from the nuclear potential. But one should not exaggerate that too much—virtual deterrence is not much deterrence.
- Existential deterrence probably will be sufficient, up to a point. But sooner or later, we may suddenly be plunged into a situation in which there is a very real prospect that we will want to use nuclear weapons. Or, at least that a prospect becomes a lot more real than it is now—real enough that the authorities want people to start planning, assessing consequences, that kind of thing. Then Washington will be appalled at the way our nuclear competencies have been lost.
- I have some sympathy with the existential notion, but in practice the United States doesn't show much evidence of behaving that way, of literally keeping nukes quite latent. By quite latent, I not only mean in declaratory policy, but actually in operations, plans, dealerting, etc. Under those circumstances, I'd say, yes, there's something to that [existential deterrence]. Regardless of declaratory policy, as long as the things exist, the problem is that there will always be some people who say: "No, that's not good enough. You have to wave them around. You have to test every once in awhile to remind people."
- If you have good remanufacturing capability, in terms of numbers per year, these weapons last a long time. People wouldn't dare attack us assuming our nuclear weapons won't go off. Again, it doesn't take many to destroy the civilization or the structure of a country. ... Internationally, it would be a big mistake to think that if we cut back on weapons production and lab work, somehow we'd lose our ability to make nuclear weapons that are deliverable to any place on this earth. I believe very much in our technical capability, not simply defined as the capability of the Department of Energy sites. We have tremendous capabilities to reconstitute ourselves if need be.
- I agree that it's more the existential fact than the efficiency. I have always felt that nuclear weapons were probably the greatest deterrence. You could only think of them as an indiscriminate weapon against another country and its population, major cities, and government. They are indiscriminate weapons of mass destruction and not discrete weapons to be used to destroy other silos or whatever. Therefore, they don't necessarily have to be very effective or very detailed. You don't have to worry too much about the circular error of probability.

- As I would define existential deterrence, you have some nuclear weapons, even if they're dealerted or the nuclear warheads are separated from the missiles, as opposed to having none that you could produce in six months over a crash plan.
- You cannot eliminate the possibility of nuclear rearmament. In some of the more sophisticated [variations of this logic] it is argued that you cannot eradicate deterrence, because the shadow of the possibility of nuclear rearmament will darken human affairs, even if there are no deployed nuclear weapons, or no assembled warheads.
- There is an existential role for the presence of nuclear weapons. Maybe it's not nuclear deterrence in the Cold War sense, but it's my view that nuclear weapons cannot be disinvented. They are going to be with us, and we have to figure a way to live in a world with that danger and make it as stable a world as possible under those circumstances.

### **Section 3.7: Deterring Biological and Chemical Attacks**

**B**ECAUSE THE UNITED STATES HAS ELIMINATED BOTH BIOLOGICAL AND chemical weapons from its arsenal, it is faced with the challenge of how to deter other countries from using these weapons in attacks against the US homeland or its military forces when response in kind is not an option. Some have suggested that US nuclear weapons should be used to deter the use of biological and chemical weapons as well as nuclear weapons, but this issue is highly controversial. At the core of the discussion is a growing perception that the United States and its interests around the world are vulnerable to increasingly widespread weapons of mass destruction. Such threats could arise within regional conflicts in which belligerents seek to prevent US intervention or to cause casualty sensitive policy makers to withdraw US forces. Other sources are external and domestic terrorists. External terrorism in which mass casualty weapons are used could be either state-supported or could derive from substate actors or groups. The policy debate about how to respond to this range of threats encompasses two important dimensions.

The first dimension is conceptual. It is the question of whether US nuclear weapons can and should be used to deter attacks with biological or chemical weapons. Debate about this aspect involves both the potential effectiveness of nuclear deterrence and the potential implications of nuclear retaliation should deterrence fail. The second dimension relates to the advisability of

having an ambiguous or clear declaratory policy about whether the US would use nuclear weapons to retaliate against these types of weapons.

How to deal with mass casualty threats figures prominently in current security policy debates for a number of reasons. Among the most prominent is the perception shared by many that the threat of mass casualty terrorism or the employment of weapons of mass destruction in regional conflicts is a growing probability. But another reason this issue is important is because of its potential implications for the wider policy debate about the future of nuclear security. To those who advocate decreasing the role of nuclear weapons, the concept of deterring other mass casualty weapons with US nuclear capabilities is a dangerous and unwarranted extension of the already questionable value of nuclear weapons. To those who support preserving the central role of nuclear weapons in US security, the growing threat of mass casualty weapons provides additional rationale for the utility of nuclear deterrence and the continued need for nuclear weapons.

As illustrated in earlier sections of this chapter, arguments about the past, present, and future efficacy of nuclear deterrence are waged on familiar theoretical ground well worn by decades of debate that is thoroughly documented and politically mature. Opinions among policy elites about the value of strategic nuclear deterrence of other countries' nuclear forces are highly resistant to change. But the issue of whether nuclear weapons can prevent the use of biological and chemical weapons in state level conflicts and state and substate sponsored terrorism has become an important dimension of contemporary debate about nuclear deterrence. For these reasons, we asked our respondents to comment on their perception of the threat of mass casualty terrorism, the advisability of using US nuclear weapons to deter such acts, and how relevant US policy should be stated. As expected, responses varied widely, and we have organized below illustrative quotes that address key aspects of this important issue.

### **Arguments for Deterring CBW Threats with Nuclear Weapons**

Supporters argue that nuclear weapons provide a useful deterrent to biological and chemical attacks both from state and substate sources. They contend that attacks against US interests that produce mass casualties, regardless of the means used, may warrant a nuclear response for the purposes of deterring future such attacks. They argue that biological weapons, in particular, have the potential to

create unacceptably large casualties that warrant the use of the only weapon of mass destruction remaining in the US arsenal, and that responding with conventional weapons does not have the same utility for future deterrence.

- I would not rule out a nuclear response especially for deterrence of biological weapons. Whether you intend to or not, keeping the door open is important. Now I recognize that will raise the perceived utility of nuclear weapons in some folks' eyes, but it also lowers the utility of biological weapons. Whether you advocate that posture or not, I think that a president faced with that situation would want to at least consider nuclear response options.
- Since we have foresworn the use of chemical and biological weapons, we don't keep chemical and biological capabilities around to deter their use by others. But we have our own weapon of mass destruction. Yes, we're sort of ambiguous about this, and I can live with that. We should respond with various means when we need to, including nuclear in response to conventional, chemical, or biological aggression. So nuclear weapons play a deterrent role across the spectrum of significant military operations.
- We are relying and will continue to rely on nuclear weapons to deter the use of other types of WMD. This is an opinion not shared by everybody, but I think there is a real deterrent effect. It's in our interests to clump these weapons—chemical, biological, and nuclear—together so that when someone else contemplates crossing that threshold, they have the inescapable perception that they're risking a nuclear attack in return.
- Reluctantly, I think we have to [use nuclear to deter the use of chemical and biological weapons]. That's a complication, but if we had to use force in another Iraqi type situation, and if their chemical or biological weapons really posed a serious threat where they could do significant damage to someone, then you might consider using a nuke. That would be a pretty hard call for the US president, or we might even see the UN eventually getting into the equation, if they evolve into a stronger organization. ... It would be a small nuclear response that would cause enough damage to whatever the other countries are that they would be concerned. A declaratory policy like that could be very useful.
- A number of people have argued that we don't need to threaten nuclear retaliation against a biological attack, because we can do devastating damage with conventional weapons. ... we can do all sorts of other things with precision targeting that will accomplish our objectives without having to use nuclear weapons. But I'm uncomfortable with the idea that we might, in any way, make ex-

PLICIT the notion that another country or group might be able to use biological weapons and have to worry only about retaliation with conventional explosives.

- I have a different view that is tied to the notion of weapons of mass destruction. I don't care about the weapon; I care about the mass destruction. Countries should know that whatever acute device they choose to deliver on the United States of America, that if they are both unlucky enough and lucky enough for the device to work, and for it to exact mass destruction, then they will surely suffer mass destruction in return. ... And if nuclear weapons are the most intelligent way for us to retaliate under the circumstances, then we will surely use them, regardless of whether the other side used chemical weapons, biological weapons, nuclear weapons, or a bunch of saboteurs to break open Hoover Dam.

- The President of the United States should say, in some serious forum, that the US...will view all weapons of mass destruction as equivalents. If you're going to slaughter civilians, the instrument isn't very interesting to us, and we will use whatever instruments we think are most effective in retaliation. Government has a large ability to influence how people think about nuclear weapons in general.... US rhetoric helps to shape perceptions around the world. ... I tend to agree with some of the polls indicating that we have not done enough to warn the world that the use of weapons of mass destruction will have great and terrible consequences, and that we will not view their use in the normal context of war.

- I favor a movement to a doctrine of no-first-use of weapons of mass destruction. That's different, fundamentally, from a doctrine of no first use of nuclear weapons. I would reserve the threat of nuclear retaliation against states employing other weapons of mass destruction. That doesn't mean I definitely would do it. ...figures such as Saddam Hussein should have no assurance whatsoever that were they to strike with chemical or biological weapons they would be spared a nuclear retaliation. ... Now, I don't like this option that I've just described, but my realism says it is the best of the possibilities for us, and I think it has very considerable advantages.

- By everything we know now, nuclear threats were very important to Saddam Hussein's non-use of weapons of mass destruction in the Gulf War. That's not my interpretation; that's the statement of not just one senior Iraqi official, not just two senior Iraqi officials, but multiple senior Iraqi officials who were participants in the Gulf War. ... A whole series of people who were very much involved said specifically that Saddam did not use weapons of mass destruction because he feared nuclear retaliation by the coalition. ... Based on the empirical evidence that we have available, nuclear weapons worked for deterrence.

- One must bear in mind that we do not have either biological or chemical weapons, and that we have either threatened or blustered, depending on your point of view, to respond massively to any use of such weapons, and that usually is interpreted as meaning a nuclear response. So deterrence of non-nuclear weapons of mass destruction must be added to the list [of uses of nuclear weapons].
- I would reject an automatic tie [using nuclear weapons to respond to biological or chemical weapons]—the president needs to determine US response in accordance with particular circumstances. But I would be crystal clear that I might respond to chemical or biological weapons with a nuclear retaliation. As long as we have nuclear weapons in the arsenal, I would design small, clean earth penetrating nuclear weapons. Of course, the antinuclear community is going to start screaming that that means weapons you intend to use. And the answer is yes, that's exactly what that means. If deterrence is to be effective, I must have the will and capability. I hope I never have to do that, but yes, that's exactly what I mean.
- I suspect that, in some ways, we've come up with a nuclear option to deal with WMD threats from rogue states because we can't see anything else to do. And that may be true in the sense that there's no other good way. There may be circumstances when, at the end of the day, there is really no other way to respond, and that we have no other threat of sufficient weight to deal with serious biological and chemical capabilities. I'm not sure about that yet, but this is an area that is new enough that I don't think that the field in general has thought enough about how to deal with these things.
- If the United States is going to intervene in future Somalias, or Kosovos, or in the Persian Gulf, it has to maintain enormous military capabilities. These capabilities will probably need to include nuclear weapons used either as a last resort response, or as a deterrent to Slobodan Milosovic's or Saddam Hussein's use of biological or chemical warfare agents or nuclear weapons to thwart our intervention. If we can't handle these attacks with our conventional forces, we are going to have to face up to the fact that we may need nuclear weapons as a possible deterrent. If you want to eschew that option because we see nuclear weapons as such a threat to mankind, the way out is to not guarantee the security of Persian Gulf oil, or the Kuwait regime, or the Taiwanese against the Chinese.

### **Arguments Against Deterring CBW Threats with Nuclear Weapons**

Some participants perceived the heightened debate about the need to deter mass casualty terrorism as false rationale for continuing nuclear weapons research and maintaining a large and sophisticated nuclear arsenal. They contended that by



breaking the normative prohibition against using nuclear weapons, US actions would help rationalize nuclear use by others and would stimulate further nuclear proliferation. Some also considered a nuclear response to be unnecessarily disproportional to the likely effects of most biological or chemical attacks. Most opponents of using nuclear weapons either to deter or to retaliate in such circumstances considered the US to have ample conventional military capabilities to deter these kinds of attacks, and, if necessary, to punish the attacker.

- It is undesirable and unnecessary to use nuclear weapons for that purpose [detering chemical and biological attacks]. It's undesirable because we're better off in a world where as few states as possible have nuclear weapons. The more nuclear weapons we have, and the longer we keep them, and the more purposes that we say they serve, the more others will want to have them, and the more others will believe that it's legitimate to have them. ... So the question then becomes: how do you deter chemical and biological threats, given that we've forsaken these weapons, and we cannot offer symmetrical replies? The answer is that the United States, if no one else, is in a position to make very credible conventional deterrent threats against chemical and biological use. ... Actually, it's pretty hard to make nuclear reprisal under those circumstances anyway....
- Chemical, at least in part, and biological, almost entirely, are terrorist weapons. They are not military weapons. They are not particularly useful for fighting military conflicts, but they are very useful terrorist weapons. Terrorists are remarkably immune to the threat of retaliation, for a variety of reasons. I don't think nuclear weapons are particularly effective for deterring chemical and biological attacks by terrorists.
- If you're talking about various terrorist organizations that have some of these kinds of weapons [of mass destruction], they're not motivated to be deterred. Their motivation is to overcome deterrence, or to have that opportunity. They use these weapons to make a political point or a religious point, and so the calculus is really different. They pretty well know that we're not going to destroy the country in which they operate just because they committed some terrorist act. ... You have to find a new way to deal with these contingencies. You can take deterrent concepts and maybe use conventional systems to apply them, depending on if we get clever.
- The scale of devastation of nuclear weapons, once you cross that threshold, is so great—beyond what certainly a chemical weapon and most conceivable biological weapons—that I instinctively and fundamentally do my best to reject the notion of nuclear weapons as a deterrent for biological weapons or chemical weapons, because I don't want to cross the nuclear threshold.

- Some of the threats that I worry about are ones that can't be covered by nuclear deterrence. They are threats by groups rather than countries, groups that don't want to take credit for their actions, or [that] have their headquarters in places that we don't want to blow up because there are lots of innocent people around. ... So that's a problem to which nuclear weapons are relevant, but it's not one for which deterrence is a solution in the traditional sense.
- Deterrence will not work against subnational actors, because there's nothing to deter. The central idea of deterrence is that you're going to destroy the challenger, and in the case of a subnational actor, there is nothing to destroy. If some terrorist acquires a nuclear weapon, how do you retaliate; how do you deter? While this would be extraordinarily dangerous and highly unlikely, you could conceivably say to a terrorist that since you are financed by Libya, if this weapon goes off, then we will destroy Libya. That is a very dangerous policy, and I'm not going to recommend it. ... You can't do that with subnational actors very easily. So, I don't know about deterrence working in that sense, but it wasn't designed for that.
- Imagine this scenario: there is an Islamic terrorist attack on an American city causing one hundred thousand casualties. Like the public portrait of the Osama bin Laden network, this terrorist group may be distributed very thinly, a few people in various countries. Should we drop a nuclear weapon on an Islamic city? Would that legitimate our response? Would it hurt bin Laden? I don't think so. This notion of retaliation of this type has been used many times in history, by the Nazis in World War II and certainly by Stalin. It usually mobilizes and intensifies resistance rather than diminishes it.
- If you have a group like Osama bin Laden that has no homeland, we don't have anything to threaten or to retaliate against, and so they can get away with much more than Iraq, Iran, North Korea, or someone whom you can threaten to wipe out if they do something radical. The terrorists with no homeland are the ones that could well be the greatest nuclear threat to this country.
- The threat of nuclear weapons is sometimes used to deter other weapons of mass destruction. The Iraqi situation is always the example used, where in the Gulf War Iraq was threatened with overwhelming response if they used their chemical weapons. I just submit that, again, that is a self-defeating proposal, because to the extent that you're threatening a non-nuclear state with nuclear annihilation, the response from them will be: I must neutralize that threat, and I will do that by whatever means I can, including nuclear weapons or chemical weapons, or whatever. So it's a short-term "feel good" threat that has a long-term cost. So from that perspective, nuclear weapons should be limited to response to nuclear attack.

- Certainly nuclear weapons have no deterrent capacity against a nonstate group. They are completely irrelevant if you can't identify the culprits. ... Who would nuclear weapons be used against? So with nonstate groups, nuclear deterrence has no effect at all. ... Nuclear weapons should only be used as a deterrent against other nuclear weapons and not against chemical and biological weapons. In fact, there are some agreements to which we are a party which suggest that the US is not supposed to use nuclear weapons in retaliation for use of chemical or biological weapons.
- It would be very difficult to deter chemical or biological use with the threat of a nuclear response, outside of an actual war setting. If you are in a war, the plausibility or the utility of using nukes to deter chemical and biological attacks goes up, because, in part, the plausibility of the denial goes down. ... It's easier to make the case in wartime, even though you don't have the actual proof to show the American people. And our opponents know that, and so nuclear deterrence is more effective in that environment.
- In most of these places there's a rather stark line between national security and regime security, and regimes are always concerned more about regime security than about national interests. So the way to deal with those threats is by threatening conventional "regimeocide," in response. That's a somewhat awkward coinage, but I can't think of anything better. I don't think it helps our cause to bring nuclear weapons in. What it does is to add fuel to the arguments of those all over the world who are saying that nuclear weapons have considerable utility, and look at all the uses to which the Americans and their allies are putting them.
- The one [threat] I'd be the most worried about is the one we're least prepared to deal with. ... and that's the transnational threat. That's the threat of actors that we can't identify as having national origins, and therefore, neither deterrence nor retaliation works. ... So, the ones that we are least prepared to deal with are those that we can't deal with in our traditional form, and that traditional form is deterrence through attribution/retribution. Consequently, the availability of weapons that can do enormous damage or create very significant loss of life means that the only way we can deal with those is to be adequately prepared to defend ourselves against them.
- An important point to keep in mind is that the hard liners aggregate chemical, biological, and nuclear weapons under weapons of mass destruction; they argue that nuclear weapons could be an appropriate response to all three. The opposing argument is that nuclear weapons are qualitatively different from chemical and biological weapons. *First, you cannot protect against a nuclear weapon; there's nothing you can do if it goes off. You can protect against chemical and biological warfare. Second there's a qualitative difference in lethality. Finally,*

there's also a qualitative difference morally and psychologically. So there are differences; "weapons of mass destruction" is an incredibly dysfunctional term.

## US Policy Options

Declaratory policy about whether the US would employ nuclear weapons to retaliate against the perpetrator of biological or chemical attacks against the US or its forces is purposely ambiguous.<sup>2</sup> Some advocates of a more clearly declared retaliatory policy argue that by implying that the US might use nuclear weapons to respond to biological or chemical attacks, it is making an unwise attempt to employ nuclear deterrence against other types of mass casualty weapons. They contend that since all potential attackers already know that the US has a large and available nuclear arsenal, overt statements about its retaliatory policy would produce no additional deterrent effect, would reduce US flexibility in tailoring appropriate responses, and would stimulate further nuclear proliferation. The following commentaries illustrate this perspective.

- While there will always be ambiguity in a deterrence policy, we should get away from the position which emerged in some quarters in the last few years, that if people use chemical or biological weapons or something else, we have intimated that we might use nuclear weapons. We should move away from that posture.... It is not good to formulate your policy from the position that we will use nuclear weapons if we have to. It only increases the likelihood that other people will pursue nuclear weapons and tends to undercut efforts to de-emphasize nuclear weapons.
- ...it's a real mistake to say we are going to retaliate with nuclear weapons. If something incredibly bad happens, I am sure the kinds of people who would think of using biological warfare in an "out of the blue" attack will take it for granted that we will use whatever we have got in response. But to advertise that we are going to retaliate with nuclear weapons, again, makes them something you have got to have if you are a serious country.
- Many, if not all, of our senior military and civilian leaders carry around with them the implicit assumption that because we have lots of nuclear weapons a

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<sup>2</sup> US policy about responding to attacks in which nuclear, biological, or chemical (NBC) weapons are used against US interests is reportedly contained in Presidential Decision Directive 60 (classified), November 1997. The following unclassified statement of US policy is found in Secretary Cohen's *Report of the Secretary of Defense to the President and the Congress: 2000*, p.5: "Although the prominence of nuclear weapons in the nation's defense has diminished since the end of the Cold War, nuclear weapons remain important as one of a range of responses available to deal with threats or use of NBC weapons against U.S. interests."

country would not dare attack us with biological or chemical weapons. Therefore, we don't have to spend money, brains, and talent to figure out how to deal with the problems of a chemical or biological attack without using nuclear weapons. I don't want to encourage our leaders to follow that path any more than they are now, and being more explicit about a nuclear response to chemical or biological attacks might have that effect.

Other advocates of a more clearly declared policy argue that for nuclear deterrence of other mass casualty weapons to be most effective, US policy should leave no doubt that nuclear weapons are a retaliatory option. They contend that since the US cannot respond to biological or chemical attacks in kind, it should clearly declare that attacks for which attribution can be determined in which nuclear, biological, or chemical weapons are used against the US or its forces may warrant a nuclear response. The following quotes illustrate this view.

- We ought to declare that if you use those kinds of weapons [nuclear, biological, or chemical] the nuclear option is on the table. Obviously there are many dependent conditions and caveats. If a terrorist puts Sarin in the metro system in Washington...what am I going to do with a nuclear weapon? What do you do? How do you do it? But at a state level, it's a good public discussion to have as opposed to ambiguity. Ambiguity may not be the thing you want right now in a world that has so much turmoil. A tad more clarity is valuable sometimes. You don't have to wait; you can say lots of things. You can make it clear that you take this business seriously....

- If it is the fact that the doctrine emerging of belligerent reprisal is real, then it is not just an existential deterrent; if it is in fact, when tested, going to be taken seriously by potential adversaries, then a lot more work needs to be done in communicating this. ...you have to believe deeply in the deterrent value of nuclear weapons in the Cold War to extend them to the next step. Then if you do that, you are responsible intellectually to say how you would recreate the conditions against the Soviet Union within the regional patterns that you have. We can't just leave it to linger, which is where we are at today.

- I am very concerned about this belligerent reprisal concept that this [Clinton] administration has come up with. They don't understand it; I don't understand it; and the guy out there who is thinking about using chemical or biological weapons on me doesn't understand it either. ... If we intend nuclear weapons as a deterrent to biological or chemical weapons, we need to make a declaratory policy and the means with which to carry out that declaratory policy crystal clear and usable. ...you must take the legal steps to square your declaratory

policy with other commitments such as negative security assurances. The US is a legalistic country. The Arms Control Association is right about this; you cannot violate your own legal principles, because negative security assurances are now part of your declaratory policy. You have to square your doctrine and then have the means to carry it out. Now, if that's what we should do, that's fine. But right now I don't think we're really deterring anybody.

But most of our participants preferred to retain an ambiguous stance that maximizes US flexibility while leaving open the option for nuclear retaliation in the service of deterring the use of all types of weapons of mass destruction. They contend that the US gains nothing by ruling out a nuclear response, and would restrict its options by openly declaring a nuclear response policy that might be problematic in many cases. Following are comments illustrating this position.

- In general, it is always a mistake to rule out possibilities. ... The bad actor should have no assurances as to what we might do. Now we may choose not to flaunt or threaten nuclear retaliation. Maybe we don't necessarily threaten to use nuclear weapons in response to those kinds of attacks, or maybe we do, but whichever way we decide to handle that, by all means, we should not say that we *won't* do it. ... Our long-range resource planning, policy planning, and military contingency planning should be done in such a way that there are the maximum number of options for a president. And I would prefer to handle the problem of biological and chemical threats in ways that we can invent or imagine that don't require the use of nuclear weapons. So that's our internal planning and thinking about the issue, but from an external perspective, it should always be viewed as an option.
- I don't think there's anything to be gained by forswearing the threat of nuclear retaliation. You may not have to be 100 percent explicit, but I don't see any reason to give a free ride to any who think they can further bound the range of things they might have to suffer in return for using either of those [biological or chemical] weapons. Forswearing nuclear retaliation for a major biological attack is no more logical than forswearing it for a small nuclear attack. A big biological attack could kill a lot more people than the sorts of nuclear weapons that small countries in the world are likely to deploy.
- A lot of people are uncomfortable with ambiguity, but I think this is a situation in which ambiguity serves us well. We have conflicting objectives; one is deterrence. We want people who might use weapons of mass destruction against us to understand that such actions are not without serious consequences. Specifically, anybody who might think of using chemical or biologi-

cal weapons against the United States would have to consider the possibility that we might use nuclear weapons.

- It's completely unnecessary for us overtly to threaten the use of nuclear weapons. I think it's a mistake to be explicit about how and whether we would use nuclear weapons, especially in retaliation for chemical or biological strikes. But the fact that we have this arsenal plays a huge role.

- I don't think the United States government wants to lock itself in to using nuclear weapons to retaliate against nuclear, biological, or chemical attacks. ... because it's just as likely that such attacks on the part of others will fail as it is that they will succeed. And then you're in a box.

- It's an old problem that what may make sense as a declaratory policy may be very hard to sustain as military policy. ... I'm not uncomfortable with the US not being necessarily very precise about it, but sort of reminding the bad guys of this world that we do have these weapons, and they ought to really think twice before acting. But if they went ahead anyway, I'm not sure (a) what we *would* do; (b) what we *should* do; and (c) if we, in fact, implemented this threat, whether we could sustain that posture politically the next day or beyond.

- You don't have to be more explicit, because the downside of being more explicit is that it could tend to restrict your options. ... The key is that you want to say the response would be prompt and devastating, but you don't have to spell out the specifics. ... Everybody knows that we have nuclear weapons, and everybody knows we could conceivably resort to them. I don't know what it buys you to be more explicit except for seeming to undercut the norms that we are trying to build against use. We should try to keep building the norms against nuclear use. ... But we have to recognize that in the event of this kind of biological use, whether it's against us or somebody else in that situation, I don't think it is realistic that you're not going to at least contemplate using nuclear weapons in retaliation.

- The role of US nuclear weapons as deterrents of biological weapons is purposely ambiguous. Even when I sit down with the experts, I can't get them to tell me, and so they want it not to be declared. The implication is that if you use those kinds of weapons against us, or against an ally, then we could very easily respond with a nuclear weapon. That's our WMD; that's the one we've got, so that's the one we use....

- In terms of current thinking about nuclear utility, there is a quietly brewing debate...about whether we need nuclear deterrent threats to deter chemical and biological attacks. ...the official position is ambiguous. It has to be ambiguous, of course, because to say otherwise completely violates various assurances we've given in the NPT and otherwise that we will not use nuclear weapons or nuclear threats

against non-nuclear armed states. The chemical or biological threat could arise from any quarter, and we're implying that we will use nuclear threats to deter that.

- I think it [US policy about responding to attacks with WMD] will remain ambiguous. It has some problems, but the problems are not about what we say. The problem is again the one of anonymity. If this is done well, that's going to be the problem—finding out who did it. If you think of it in terrorist terms, that's the difficulty. If you think of it in terms of its original contingency, then it's a bit different. And there is the possibility that retaliation could still occur, although there also could be a lot of public pressure against nuclear retaliation because of the nuclear stigma. That's an interesting one. How far across the biological threshold would allow you to cross the nuclear threshold, and would their having broken one taboo allow you to break another?

### **Section 3.8: The Role of Precision Guided Munitions**

**T**ECHNOLOGICAL IMPROVEMENTS IN CONVENTIONAL ARMAMENTS THAT allow munitions to be delivered with increasing accuracy have led to a class of weapons known as PGMs, often termed “smart bombs.” The utility and limitations of PGMs were demonstrated in 1991 during the Persian Gulf War and in the war in Yugoslavia over the province of Kosovo in 1999. The apparent effectiveness of precisely delivered conventional ordnance has led some security policy experts to argue that PGMs can partially replace nuclear weapons.<sup>3</sup> There are two key uses to be considered. The first is utility for denial, which addresses the substitutability of PGMs for nuclear weapons for destroying certain types of targets. The second is utility for deterrence, and it relates to the substitutability of PGMs for nuclear weapons for the purpose of strategic deterrence. The following quotations present a cross-section of opinions on the use of PGMs, their limitations, and their potential to carry out both denial and deterrence missions traditionally associated with nuclear weapons.

#### **Conventional PGMs vs. Nuclear Weapons for Denial Missions**

At the height of the Cold War, US nuclear weapons were committed against thousands of targets of hundreds of types, many of which were integral to

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<sup>3</sup> For arguments calling for PGMs to partially replace nuclear weapons, see Nitze, 1994 and 1999, Krepinevich and Kosiak, 1998, and Nitze and McCall, 1997. For a critique of those arguments see Gormley and Mahnken, 2000.



critical infrastructures, including some relatively “soft” transportation and communications links. Some of our respondents noted that today, many of those types of targets could be struck with precision conventional munitions that would yield a high likelihood of damage or destruction without the accompanying effects of nuclear explosions. Others noted that the vulnerability to conventional munitions of other types of targets that are specially hardened or buried underground, as well as those that are mobile, is much less certain, and that nuclear weapons may be the only way to destroy some types of targets.

A second consideration about denial roles relates to usability. As some respondents pointed out, regardless of target effects and probabilities of kill, nuclear weapons that cannot be used because of their political implications are of no value for denial missions. Conversely, US willingness to use conventional PGMs has been amply demonstrated, and PGMs used to attack targets are more effective than nuclear weapons that cannot be used to attack those targets because of political constraints. But some respondents commented on how the effective employment of precision conventional weapons also might stimulate others to seek asymmetric offsets.

The following comments reflect views of our participants about the utility of conventionally armed PGMs versus nuclear weapons for denial applications. They are separated into two groups addressing targeting considerations and usability issues.

### ***Targeting Considerations***

- PGMs are an answer to one of the real dilemmas of war, and that is how to be able to hit what you are aiming at, and that has enormous implications, especially when fighting in areas far removed from the United States. ... There are a number of targets where nuclear weapons were thought to be necessary, because we didn't have the required accuracy to destroy the targets with conventional weapons, and those are cases where we ought to shift some emphasis. Nuclear weapons now play a different role from that of being the only way one can destroy many kinds of targets. Nuclear weapons, however, remain the only way to destroy some targets, such as deep underground command centers and things like that, but for many kinds of targets, things have changed.
- The proper way to think about this problem is that PGMs give you the ability to achieve devastating military effects in a very precisely defined and small area

without the collateral damage associated with nuclear weapons—the heat, the flash, the radiation, all those devastating consequences. You can achieve most of what you want to achieve using PGMs and conventional warheads, with a couple of exceptions. A possible exception might be deep underground facilities that you can't destroy without nuclear weapons.... Most of the military objectives that we want to accomplish can be done with conventional PGMs.

- We have two trend lines here. We've got a trend line in which precision guidance and a lot of other technical developments are making our ability to detect better and our ability to attack better, but there are still some obvious limits. We cannot light up the underground of North Korea to discover if it does indeed have a warhead, and if so, where that might be, and how we might attack it. On the other hand, most things [can] probably be attacked by conventional means. ... So I may not be able to solve the problem by conventional force alone, but I'm not sure what nuclear weapons bring to the table.

- There are probably some hardened or deeply buried targets that we wouldn't have complete confidence of destroying with conventional weapons. But the target set issue should be a secondary level question, and the primary level question should focus on what's our objective, how will nuclear use affect it, and what are the positive and negative political and psychological ramifications? Then, and only then, do you start saying, okay, what are the targets? It would be a failure to let particular targets drive us to nuclear use as opposed to deciding the use question separately.

- A lot of the battlefield uses of nuclear weapons could be performed by PGMs, because there the issue is less one of perception and more of military utility. There the issue of targeting and intelligence are tractable, and the political downsides are far less than those associated with using nuclear weapons. There is one exception, and that is certain classes of highly hardened military centers, against which PGMs will not be effective. ... For that, deep-penetrating nuclear weapons, particularly those with low yield and low collateral damage, seem to be of utility.

- Dirty little wars with opponents who have a few nuclear weapons may well require highly limited, highly directed US nuclear options to deal with them, and it's unknown, until you get into that situation, exactly what sorts of options you want to have. Nevertheless, many military functions that we intended to accomplish with nuclear weapons in the Cold War can now be done with non-nuclear weapons. ... The range of military purposes for nuclear weapons is shrinking, and properly so, but it's not going to shrink to zero. And there are new missions that, because of their characteristics, can only be accomplished by nuclear weapons. The attack and destruction of deep underground facilities falls in that category, and it may be the only one.

- Clearly, there is an awful lot that used to be covered during the fifties and sixties with nuclear weapons that can be done now with precision guided munitions. But the idea that you can somehow use precision guided munitions as a substitute in every instance strikes me as an over-argument....
- A nuclear weapon has a way of getting people's attention that a precision guided conventionally armed weapon never will, particularly one whose purpose is to limit collateral damage. The fear associated with a nuclear weapon is much higher. Second, the weapons effects are completely different. A precision guided weapon is not going to bury itself deep enough and have enough yield to destroy the kinds of targets that you might have to worry about in the future. And that's a significant difference. They are not interchangeable; they are complementary; and it's probably a mistake to think of one supplanting the other.

### ***Usability Issues***

- You can substitute PGMs for nuclear weapons in some instances, some scenarios, with pretty good effect. Primarily, those are theater engagements where you may be reluctant to use a nuclear weapon anyway, so the PGM that you use is always going to be more effective than a nuke that you don't use. ... Theater nuclear weapons weren't very useful as theater weapons, so it makes sense to substitute PGMs for them. ... But I don't see a lot of substitutability now, or even in the foreseeable future, for the central role of deterring a nuclear strike on the American homeland.
- The development of "smart" weapons and of the ability to use them with good aim, to put them just where you want them with just the amount of power that is sufficient to do the job, that is a much more useful weapon than indiscriminate nuclear weapons. The nuclear weapon is a deterrent.
- Considering the magnitude of the intelligence collection system that we have, I remain fervent in my conviction that we can find the portals, communication links, and electric power supplies of an underground facility if we know there is one in a given location. We'll come up with lots of clever ways to make it dysfunctional, short of using nuclear weapons.... Although there's such a thing as penetrating warheads, for which the effects are confined, the political havoc that would be created if we used nuclear weapons against a rogue state for the purpose of digging out an underground command post would be more than most presidential administrations would be willing to bear, except under the most dire circumstances.
- For a substantial range of military operations, it is plausible to think that precision conventional weapons will acquire not identical but comparable capa-

bilities to some nuclear potentials. I'm really thinking of the destruction, the actual mission itself. Now, the perverseness is that to the extent that those conventional capabilities become that potent...there is a reaction typified by the Indians saying after the Gulf War that the lesson is that if you're going to fight the Americans, you've got to have nuclear weapons. And so, there's the perverse potential. The more important truth about the relationship between increasing lethality of conventional munitions and their relationship to nuclear capabilities is that so long as the nuclear weapons exist, they always will be there as a possible ultimate escalation. So, even if we try to make war more precise, more fightable from our standpoint, it doesn't change the fact that either we or those that we threaten with these precise conventional munitions will be drawn to have in the background the nuclear escalation threat.

- The super high technology conventional arms do present a different sort of a problem. I think it worries the Russians and other countries, such as the Chinese, if they see that we're in a position where we can undertake counterforce attacks with conventional weapons. Maybe the one thing that came out of Iraq and Kosovo is that our high precision conventional weapons actually work. I don't think they are much of a deterrent to a determined population, but they can hit selective targets rather impressively, so that puts the silo and fixed land-based forces at certain risks.
- In some sense, nuclear weapons will be perceived as making states equal, even if they [other states] can't match the conventional capabilities that the US already has and is refining. I always thought that the substitution of conventional precision for nuclear threat was problematic in some ways, and that it didn't really spare you the great residual threat that is the strategic bedrock of modern times. And it has this propensity to incite people not to match you with conventional, but to proliferate with nuclear. ... We've searched in so many different directions to find a path toward safer use of nuclear weapons, and now a safe substitution of precision conventional munitions for nuclear weapons. All of those tendencies, while technologically very attractive, have to be evaluated politically and strategically.
- There is no question that many of the military functions that we used to rely upon nuclear weapons for can now be achieved by conventional weapons. ... Of course, it depends on the purpose of the use. If the US military is trying to destroy a certain military capability of a certain strategic target, we should strive to be able to do that with conventional weapons. I do not think that we should get ourselves into a situation where we have to use nuclear weapons because that's the only way to destroy target X. The choice to use nuclear weapons should be a political choice, not a military necessity. We need to be clear that we are using nuclear weapons, not because we can't destroy a target with something else, but because we need to send a signal of a different kind.

- Nuclear weapons historically have had a very different role than the role precision guided munitions had in the war in Yugoslavia. In that sense, I don't see a strong relationship. Nuclear weapons are, by their very nature, weapons of mass indiscriminate destruction. It is a myth that nuclear weapons can be used in a limited fashion. ... These are qualitatively different weapons, and the rules of their use have to be quite different. ... Ultimately, when you get down to it, nuclear weapons are unusable weapons. ... I can't imagine any circumstance today where nuclear weapons could or would or should be used. So, in that sense, yes, precision guided munitions, or other conventional forces possessed by the United States, obviate any perceived need for nuclear weapons in dealing with any security threats that we might reasonably face.

### **Conventional PGMs vs. Nuclear Weapons for Strategic Deterrence**

Most respondents were hesitant to suggest that conventional PGMs, regardless of numbers, attributes, or usability, could be substituted for nuclear weapons for purposes of deterrence. Even those participants who thought PGMs had considerable utility for denial missions and those who were otherwise opposed to nuclear weapons were likely to agree with nuclear advocates that conventional PGMs are not substitutable for purposes of deterring nuclear weapons. As shown in most of the following commentaries, participants considered nuclear weapons to be the only effective deterrent against the use of other nuclear weapons.

- Nuclear weapons face-off against nuclear weapons, and anything else does not. Conventional weapons, no matter how accurate, do not deter nuclear weapons. Precision guided munitions are an oxymoron, sort of like collateral damage. They are somewhat more precise and somewhat more reliable, and you're more likely to hit what you think you'll hit, but not totally sure of anything, no matter how so-called precision guided. ... Nuclear weapons are totally separate from precision guided munitions, and I don't see any connection whatsoever.

- ...people have very high levels of certainty that many people will die if nuclear weapons are used. It might be true with regard to PGMs also, but because it doesn't have this brute force visceral and emotional impact, it is not internalized. ... So, therefore, the physical destruction may be accomplished by PGMs, but that overlooks the ability to kill off the adversary's leadership, and the more general emotional impact of nuclear weapons.

- True, we don't look to nuclear weapons to accomplish war fighting tasks for us anymore.... But neither precision conventional weapons nor any other kind of conventional weapons will ever strike the kind of terror in the hearts and minds of our potential adversaries that nuclear weapons do. I simply don't see any trade-off function there.
- We lack the capability [with conventional munitions] to deny an adversary the ability to use his nuclear weapons, and until we're 110 percent sure that we can do that, we need the nuclear deterrent. We're not going to deter with PGMs.
- Nuclear weapons have some peculiar characteristics that make them different from conventional weapons. The first important thing is that they make defense impossible.
- The thing about PGMs versus nuclear weapons as deterrents is that PGMs don't generate catastrophic damage quickly; it can only be done cumulatively. As a consequence, during the trans-attack period, the adversary has ample opportunity to manipulate the political situation in ways that might bring hostilities to an end before the cumulative weight of the attacks are felt at the most basic level. Nuclear weapons are very different in that respect in that once one has gone off, the damage has been generated, even if it's the first salvo against a medium-sized country. The adversary has to think about the fact that if he pushes the other guy into launching nuclear weapons, there is no going back. ... So, I just don't see how smart weapons and nuclear weapons could have the same deterrent value.
- The increasing effectiveness of our non-nuclear forces is important. The role of nuclear weapons has declined, and that is [PGMs are] one of the reasons that it has declined, but that doesn't mean that it has disappeared, as some people believe. Nuclear weapons have a unique psychological effect, and furthermore, there is a prospect that they can be delivered virtually instantaneously anywhere in the world, whereas a combined arms task force might take weeks to get to where you want it. So, there's a role [for nuclear weapons], but it is a declining role. PGMs can probably take over some of the functions that were performed by nuclear weapons, but not all of the deterrent functions.
- I remember hearing people...saying, at the time of Desert Storm, that our conventional deterrent dissuaded Saddam Hussein from using his chemical or biological weapons or other capabilities. First of all, on the face of it, it was not clear to me what Saddam Hussein believed we were withholding at the time that we were pounding him with every conventional weapon in our arsenal. But, more to the point, we now have a lot of evidence...that Saddam got the message...that we were going to nuke them if they employed some of these weapons of mass destruction, and that was the thing that persuaded him not to do it. I

don't know where the truth lies on it, but my guess is that conventional deterrence is an oxymoron. You need something that is really a much more formidable threat to persuade somebody not to do something, especially when you're in the middle of using the panoply of conventional weapons against them anyway.

- [Paul] Nitze is fundamentally right that we can't use nuclear weapons and that precision guided weapons are much more useful, particularly for minimizing the killing of civilians and destruction of civilian property. ... Unfortunately, Nitze's argument is not enough to convince people to give up nuclear weapons. There is still a belief that you could deter an attack on the homeland with a nuclear force. People still believe the world is dangerous enough that someone may try it if we don't have nuclear weapons.
- You've got one set of capabilities, which you'll argue you won't use, but it's probably terribly effective, and another set of capabilities which you're perfectly willing to use, but it doesn't seem to have much deterring effect. We've lobbed PGMs everywhere. By that logic, Milosevic should never have done what he did. He'd already gotten a foretaste of it in 1995, and yet it didn't stop him for a minute. ... There isn't any finality with conventional weapons unless you're going to walk in and take the ground on which your adversary stands. There's a kind of aura of being able to survive in the conventional environment, and indeed, you can.
- It is a good capability to have these "smart" weapons, and the precision guided munitions open a new field, but by themselves they do not create enough of a deterrent or enough of a threat.
- The deterrent value is American overall military capability. Within that overall military capability, the fact that we can land a weapon on top of a tank is good for our execution, but I don't know that it improves deterrence, although it gives us more options. ... There is always the risk of failure of deterrence at the conventional level.
- The US can wield a sufficient conventional threat that you can argue that we could do a fair amount of the job of deterring a nuclear attack by anyone else with only a conventional force. But even for us, that's a stretch that most people are not willing to make. ... Any use of nuclear weapons is so significant that in reality you have to be talking about a comparable threat to make it plausible. Therefore, although these are not completely impermeable barriers, conventional force operations are largely a different matter entirely. And the whole exercise of deterrence and direct defense, denial of objectives, etc., involves different operational logic, different operational dynamics than nuclear weap-

ons do. There's a pretty sharp divide between these roles. So one doesn't substitute for the other all that much.

- There's nothing like a nuclear weapon. If you think of the destructive power of the most magnificent precision guided conventional weapon you can imagine, it'll drop a bridge. It's really an enormous advance to drop a bridge with a single two thousand pound bomb, but you just dropped a bridge. Or, you can take out an office building, but you just take out an office building. That's what we want them to do, but that doesn't have much deterrent value. It certainly didn't deter Milosevic. ... So, from the target standpoint, there may be some small substitutability, but from the deterrent standpoint, there is no substitutability at all.
- I just don't see any substitute for nuclear weapons for deterrence. People talk about conventional deterrents, but no matter how accurately delivered, conventional weapons cannot substitute for nuclear weapons. I do see PGMs as an incredibly effective tool in operations. Even if you say you're going to use a nuclear weapon, there may be a way to retaliate using conventional weapons instead, which would be my strong preference. Just hold the nuclear weapon as something that you threaten. However, I don't see PGMs as a substitute in the world of deterrence.

### Section 3.9: Characterizing Group Views

**A**GREEMENT ACROSS OUR FOUR GROUPS OF RESPONDENTS ABOUT THE risks and benefits of nuclear weapons and the validity and utility of nuclear deterrence was lower than the levels of intergroup concurrence noted for assessments of the security environment in the previous chapter. There were only two areas of convergence across our four groups. One area of general agreement (though for differing reasons) was that the US should not overtly declare a policy of nuclear retaliation for attacks in which mass casualty weapons are employed. The second area of agreement was that conventional munitions, regardless of how precisely delivered, are not substitutable for nuclear weapons for purposes of deterring others from using nuclear weapons. Some of the differences between groups for other issues in this chapter are summarized below, but we emphasize that we are describing the "center of gravity" for each group, and substantial variation existed within some groups on some issues.



## Group One

Members of Group One considered the risks associated with nuclear weapons to far outweigh their benefits (if any). They were skeptical of claims that nuclear deterrence prevented large-scale conflict between the US and the USSR during the Cold War, suggesting that such a conclusion is unproven and unwarranted. The group thought that the profoundly changed international environment of today warrants eliminating security postures based on a strategy of mutual assured destruction. Traditional nuclear deterrence postures involving large nuclear arsenals poised on high states of alert were seen to be anachronistic and highly dangerous, and they strongly supported moving to alternative foundations for interstate security. They sought a future security environment in which nuclear deterrence could be eliminated entirely.

They argued that key US allies now care more about the US using its influence to help stem the further spread of nuclear weapons than they do about the US extending its nuclear umbrella for their protection.

The one area of nuclear deterrence given most credence by this group was existential deterrence that would remain as nuclear arsenals are dismantled and nuclear weapons eventually are eliminated. Some argued that even in the absence of all nuclear weapons, the knowledge of how to build and employ them and the latent production capacity to regenerate nuclear arsenals would cast an existential shadow of deterrence.

They rejected as ineffective and counterproductive the notion of using nuclear weapons to deter biological and chemical weapons, and thought that mass casualty attacks against the US should not be answered with nuclear retaliation.

Most considered conventional PGMs to be effective substitutes for US nuclear weapons for denial objectives, but few thought that conventional PGMs could deter nuclear weapons.

## **Group Two**

Group Two members also thought that the risks of nuclear weapons exceed their benefits, and while some acknowledged that nuclear deterrence exerted a somewhat stabilizing effect during the Cold War, most were unwilling to attribute to nuclear deterrence the prevention of large-scale international conflict. Most thought that, whatever role nuclear weapons had played during the Cold War, they clearly were not needed in today's environment, though most acknowledged that they should carefully be removed in a balanced way from the security planning of nuclear armed states. Most saw little if any utility for nuclear deterrence in the future.

They thought that the concept of extended deterrence had always been questionable, and that allies' dependence on US nuclear capabilities in the past had been exaggerated partially to help justify a large US nuclear arsenal.

Some members of this group acknowledged existential deterrence as a factor that could be useful in the service of international stability and nonproliferation as the existing arsenals of nuclear armed states are drastically reduced. Most members were skeptical of the US being able to effectively deter biological or chemical weapons with its nuclear arsenal, but few advocated a clear policy denouncing such retaliation.

Many group members attributed great utility to precision conventional weapons for purposes of denial, and thought that PGMs could largely replace US so-called "battlefield" or "tactical" nuclear weapons. However, few attributed substantial deterrent capabilities to PGMs, especially against others' nuclear weapons.

## **Group Three**

Participants in Group Three acknowledged both risks and benefits to nuclear weapons, but most thought their benefits continued to outweigh associated risks, even in today's security environment. Considerable credence was given by most members to the effects of strategic nuclear deterrence during the Cold War, with most agreeing that in the absence of nuclear weapons, the US and the USSR may well have warred. Regardless of the efficacy of nuclear deterrence during the Cold War, members of this group considered its role

and importance to have decreased in the post-Cold War environment, and many expected it to be further marginalized in the future. Nevertheless, few could foresee a time in which nuclear deterrence played no role.

While acknowledging doubts that the US would have retaliated with nuclear weapons in support of an ally under nuclear attack, most credited alliance structures and extended nuclear deterrence with helping to control the horizontal proliferation of nuclear weapons by giving key industrialized allies sufficient reason not to develop independent nuclear capabilities.

The group was skeptical of broadening the concept of existential deterrence to the degree suggested by some members of Groups One and Two, but most acknowledged that effective nuclear deterrence does not require mirroring adversaries' capabilities, and that deterrence can be maintained at much lower force levels.

Opinions varied within the group about the utility of using nuclear weapons to deter biological or chemical weapons, with some members suggesting that carefully conceived declaratory policies about nuclear retaliatory options may help deter the use of other mass casualty weapons, while others were more skeptical. Though a few members of this group advocated a more clearly stated policy of deterrence in these circumstances, most preferred to retain an ambiguous declared policy that maximizes US flexibility while not forswearing the potential use of nuclear weapons to retaliate against especially disastrous mass casualty attacks of any type.

Members acknowledged some substitutability of PGMs for nuclear weapons for certain types of targets, but they noted that some underground or hardened targets cannot effectively be attacked with PGMs. Most dismissed claims that PGMs could deter nuclear weapons.

#### **Group Four**

To members of Group Four, the benefits of US nuclear weapons substantially outweigh any associated risks. They contended that whether it could be proven empirically or not, nuclear deterrence was critical to preventing World War III, and that nuclear deterrence remains vital for international and US security today. They expected nuclear weapons to provide a key foundation for US security planning for the indefinite future. While some group members

were open to discussion of reduced numbers of nuclear weapons, none were of the opinion that nuclear weapons could be reduced to zero.

Most believed US security guarantees that included extended nuclear deterrence were the primary reasons that key allies such as Germany, Japan, and South Korea had not yet developed their own nuclear weapons programs, and some worried that if US nuclear weapons capabilities are allowed to atrophy, the efficacy of extended deterrence could decline for some allies.

Most members rejected as dangerous the notion that existential deterrence can be effective at very low numbers of nuclear weapons postured at low readiness states and supported by a substantially smaller and less robust nuclear infrastructure.

Some members acknowledged that deterring with nuclear weapons all types of mass casualty attacks against US interests may not be possible, but most argued that there is no advantage to excluding nuclear retaliation as a possible response. While a few advocated a more explicitly stated policy of retaliation for NBC attacks, most preferred to keep the nuclear option open while maximizing US flexibility under an ambiguously declared posture.

While acknowledging that PGMs provide excellent utility for denial applications against most targets, members noted that destroying deeply buried or otherwise fortified targets will require nuclear weapons, and some advocated specializing weapons effects for those purposes. All members rejected the notion that nuclear weapons could reliably be deterred by conventional armaments of any type.

## **Volume II: Chapter Four**

### **Nuclear Arms Control**

**I**N THIS CHAPTER WE EXAMINE RESPONDENT PERSPECTIVES ABOUT THE Strategic Arms Reductions Talks/Treaty (START) and the Comprehensive Test Ban Treaty (CTBT). We include perspectives about the viability of the START process, the potential for unilateral initiatives for reducing the number of nuclear weapons, views about what a potential START III agreement should address, concerns about transparency and verification, and preferred future directions for arms control. We also discuss contrasting perspectives about the CTBT and its prospects.

#### **Section 4.1: Viability of Strategic Arms Control**

**O**NE OF THE MOST PROMINENT DIMENSIONS OF EAST–WEST RELATIONS during the Cold War was strategic arms control. It evolved from a tentative concept to an intricate and complex array of formal ties between the United States and the Soviet Union. In the views of its supporters, nuclear arms control provided two important utilities. First, it established boundaries that helped to limit the nuclear arms race, and second, arms control came to be valued by many as a formal process for facilitating and structuring security interactions between the US and the USSR. Though arms control did not prevent the growth of large nuclear arsenals on both sides, advocates valued its rules, venues, and relationships that promoted communications while ostensibly reducing the likelihood of misunderstandings that could have led to nuclear war. As formal arms control processes became more routinized and as they assumed larger functional roles in managing the security relationship between the US and the USSR, the arms control process became more widely accepted, though some skeptics remained doubtful about the utility of arms control throughout this period. Others expressed technical criticisms and concerns about verification and equity, and many critical debates were about mechanical functionality and procedural implementation.

During our initial interviews, we became aware that some policy elites were reexamining the conceptual validity of strategic arms control in the post-Cold War context. The reasons for doing so appeared to be based largely on three arguments. First, at the time of our interviews, the START II treaty had been languishing in the Russian Duma for several years, and prospects for its ratification were perceived by most participants as problematic.<sup>1</sup> Additionally, some respondents considered the prospects for acceptance of modifications negotiated after Senate ratification of START II also to be problematic.<sup>2</sup> Second, executive decisions made by the Bush administration in the US and the Gorbachev and Yeltsin governments in Russia to unilaterally (and reciprocally) reduce nuclear forces and alert postures were seen by some respondents as a more efficient and promising model for reducing nuclear arms than formal agreements that face difficult legislative ratification processes. And third, some respondents considered it likely that Russian nuclear assets would be reduced as a result of Russian economic limitations, regardless of US force levels. These considerations led some to the conclusion that the bilateral model of nuclear arms control developed between the US and the USSR during the Cold War has become anachronistic. Other participants disagreed that formal arms control processes have been overcome by events, arguing that their advantages in strategic cooperation and verification measures continue to be preferable to unilateral initiatives—whether the unilateral actions are reciprocal or not. Following are representative perspectives from our respondents about the prospects for arms control.

### Support for the START Process

- I don't believe that arms control has been overcome by events.... People would like arms control to be off the agenda for varying reasons, but it is an international security fundamental. The world is not going to run without it. ... We cannot go it alone in this world, and therefore we have to work in a coordinated way. Multilateral and bilateral agreements are necessary to ensure our security. We can't do it by ourselves.

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<sup>1</sup> The Russian Duma subsequently ratified the START II Treaty on April 14, 2000.

<sup>2</sup> The US Senate ratified the START II Treaty on January 26, 1996 by a vote of eighty-seven to four (with nine not voting). On September 26, 1997, the United States and Russia signed two agreements distinguishing between theater and national ballistic missile defense systems. On the same date, the US signed an agreement to extend the 1972 ABM Treaty to successor states of the former Soviet Union (Russia, Ukraine, Belarus, and Kazakhstan) and to submit the treaty modifications to the US Senate for advice and consent *after* approval of the START II Treaty by the Russian Duma.

- START II and START III seem to me to be perfectly reasonable efforts to reduce the size of the largest strategic nuclear arsenals in the world. If you ask why we need all of these nuclear weapons, the only answer is because the other guys have them, and so it seems to be perfectly reasonable to conclude that if both sides are prepared to go down to lower levels, we ought to do it.
- The driving factor is not strategic arms control any more, if it ever was. So what is the point? Why worry about it? Why is this a big issue? First of all, it still plays a disproportionately large role in carrying the political freight of the relationship. ... A second point is that we actually want to go below six thousand [strategic weapons]. ... So from the point of view of our own defense planning, it would be desirable to facilitate START II. The third point is that while the numbers on the Russian side are not going to be determined primarily by strategic arms control, the character of their forces can be affected by whether or not START II is in place—both the character of their modernization programs and also the character of their long-term aspirations.
- Arms control was a process that had more political benefits than military benefits. A decline from ten thousand nuclear weapons to six thousand nuclear weapons doesn't mean much for US security. But if it meant closer relations or less hostile relations between the US and the Soviet Union, if it reduced the likelihood that the two countries could come to either a conventional or nuclear confrontation, then those arms control agreements were definitely positive steps. ... I never felt, and still do not feel, that moving from X number [of strategic nuclear weapons] to X minus two thousand is a big deal militarily in terms of US security. In terms of political security, however, it is a big deal.
- ...arms control is not dead, and the START process is still of value. The issue lies in the execution of the process. The failure has been in the execution of the idea, not in the idea itself.
- I don't think arms control is dead; I think it's just not been imaginatively and creatively used.
- Strategic nuclear weapons are going down from something over ten thousand to fifteen hundred, maybe even a thousand—that's a major change. So, yes, I still think that the formal START arms control effort is worthwhile and has continued value.
- It's more important to keep the dialogue and keep these treaties going—nonproliferation treaties as well as other arms control—just to continue to demonstrate to other countries that the world is becoming less threatening to them, and therefore try to reduce the overall worldwide extent of proliferation.

I would definitely keep an arms control dialogue going with the Russians, as well as China—multilateral—but I don't think it's quite as critical as it was fifteen years ago.

- With the current instabilities in the Russian government, formal arms control is probably a healthy political process to be fostering. It's one way of easing potential or even actual paranoia among some in the Russian government about where the US is headed. Formal arms control negotiations should be conducted with an eye on the politics in Moscow as much as on what might make sensible reductions, so as to minimize the opportunity for opponents of the Russian administration to cause trouble and to protect arms controllers from the charge of giving too much away to the Americans.
- Strategic arms control is one of the very few structures in the world where Russia gets treated as an equal to anybody. So, I think it's good politics. It doesn't have to work perfectly, but there ought to be a way to integrate START with our other equities in the Russian nuclear establishment. These have to do with safety and security in both the weapons establishment and the non-weapons establishment. Having a managed drawdown and dismantlement and reorientation of Russian fissile materials towards reactors or wherever they could safely be reoriented, and having eyes and hands and dollars in the other guy's management of these kinds of processes is good for us.
- ...it is unarguable that if the Russians and Americans let their cooperative restraints fall apart, it surely would reduce the incentives of others to exercise restraint. If we can't manage restraint on a bilateral basis—if the magnitude of the threat is too grave—then it's not likely that everyone else capable of going in this direction will exercise restraint.
- The fact of the matter is that we should have structured agreements with opportunities to monitor compliance. ... You can't eliminate them [nuclear weapons], but you can maximize your ability to understand what's going on in the other country by an agreement. First, you've established a norm to which you can hold them. Second, you've maximized your opportunities to monitor and verify that norm. Third, you've also given yourself reason to complain; you've got a basis on which to lodge a complaint. Finally, an agreement is very helpful for international support. ... We need to structure access and norms into national security or arms control agreements.
- It has been said that one important virtue of strategic arms control now is that it provides the Russian government the formal and legal rationale to do what it would have to do for economic reasons anyway. Given the uncertain state of Russian politics at this time, we're better off having their reductions



justified in this way, rather than having them characterized in the Russian political environment as resulting from the mismanagement of the economy, foolish planning, and so forth. ... START is another process that keeps Russia engaged in the world, in particular with us. That's not so different from the justification that had been proffered for arms control during the Cold War. If anything, it's a more persuasive argument now than it was then. For those reasons, START III is something that we should pursue.

- It's important to continue to have a dialogue with the Russians and with other people about all of these issues—nuclear weapons, how many, whether you test, whether you don't test. It's important to be engaged in that discussion. You learn a lot; they learn a lot; there's less chance for mistakes. ... The specific numbers are less important, but the process is important to continue and to make it work. ... There is absolute value to the process. ... the process that we need today is not necessarily the same as that developed during the Cold War when you really did care about numbers, because they were a threat. ... That was one set of rules. I don't know what the new set of rules is any longer.

## **Doubts About the START Process**

- The principal event is that arms control was framed in a bipolar environment. The environment now has shifted from the Cold War era with its very firm lines of discipline, when other nations were more reluctant to reach for nuclear capability than they are today, and we keep going through the same patterns of arms control as we did in that earlier period, even though it is now less relevant. ... we go on talking as if the disciplines of the Cold War still exist, and therefore the logic of arms control during the Cold War still exists. That's wrong; that's the principal reason that arms control has weakened—the environment is altogether different from the bipolar environment of the sixties, seventies, and eighties.

- Traditional Cold War strategic arms control is dead or dying, and perhaps it's just as well. The vehicles of ABM, NPT, START, and CTBT have become too contentious, too irrelevant to present circumstances, even counter-productive to the goal of responsible reduction of nuclear dangers. ... The real issue is directionality, maintaining a steady downward vector with regard to the saliency of nuclear weapons. ... The object of the arms control exercise is directionality, sustaining the pattern of dialogue, relationships, and expectations about outcomes that goes back four decades.

- The utility of START I, to the extent it had any, and even more so START II, have been overtaken by events. The reality that the Russians have been un-

able to maintain the kind of strategic forces that they're allowed to have under these treaties means that we're paying a very high price to accomplish an objective that is being accomplished effectively by the force of nature. Our nuclear force posture should no longer be obliged to be more or less a mirror-image of whatever the Russians can afford.

- The problem with the arms control logic is that it takes on a life of its own and gets applied to all situations and becomes a matter of policy that will be what we will attempt to do, as opposed to another tool to consider. If I could use arms control to get other people's missiles off the table today, I probably would, because we can't defend against them. That would be one example. On the other hand, I think arms control has been an abysmal failure in stopping nuclear proliferation. ...the problem with arms control logic is the same [as with] nuclear logic. It becomes exceptionally theological, and it goes down paths that most people wouldn't go down, just because it has to be internally consistent.
- The theology or the ideology of arms control no longer has political salience in American society. It was compelling twenty years ago to say that we can't afford to engage in nuclear arms races with the Soviet Union. It is not politically compelling to say that we don't have an interest in engaging in an arms race with the Russians when the Russian gross domestic product is probably 1/50<sup>th</sup>, 1/100<sup>th</sup>, or 1/1000<sup>th</sup> of our GDP. It doesn't have great salience. ... Frankly, we need to move the discourse away from all this foolishness that envelops the US and the Russian nuclear arms control teams.
- We're engaged in the START process because we built this theory of arms control that tells you that somehow if the numbers are lower, you're safer. I don't know of any serious empirical study that shows that when you get to lower numbers, you're safer. ... When someone tells me that there exists a deep reductions regime that actually provides greater safety, I just throw up a couple of standards. Does it go down to the levels where you actually are physically safer, which means that you have to get down to very low force levels? ... If you get down to very low numbers, say the tens, can you then have confidence that everybody else isn't at hundreds? ... I don't believe arms control can possibly ever meet the standard for being able to say with some certainty that, yes, we've actually had our security increased by the arms control agreement itself.
- ...people still tend to think in terms of the START agreement and the ABM treaty, and I guess my belief is that the traditional approach to arms control has pretty much run its course—not that it hasn't had some utility in the past. ... There is a growing recognition that we need to do something quite different.

- START I was a good thing in its time. START II was a good thing in its time, but it is of waning value, because the situation is changing so quickly. I don't think it's important anymore. ... I don't think it matters if we get START II implemented. Do we have a START III? Again, I don't think it matters. I personally think that the START process is the flip side of mutual assured destruction, and we need to stop basing the US/Russian relationship on the notion of destruction....
- It [START] may very well have been overcome by events. START I and II were concluded near the end of the former national security environment—the Cold War nuclear environment. START II was specifically designed to stabilize the nuclear environment, to the extent that weapons design can do that. It may not be anachronistic now, but it's not nearly so important, because the bilateral confrontation is over.
- If we focus on START II and START III and START XIV, or wherever you are in your diplomacy, there may be severe counterproductive effects on diplomacy and on Russian–American relations. We will convey an impression that modest or small differences in numbers of nuclear weapons make an enormous difference and can be exploited politically and militarily. ... The result will be that we'll keep the things we don't need, or even invest in new or additional weapons. So, whatever good there may be in arms reduction agreements may be partially or even more than offset by the undesirable effects inherent in the negotiating processes to achieve them.
- The START process made the arms control establishments in the US and Russia feel good about themselves, but it didn't have nearly as much significance as SALT I and SALT II in the early and late 1970s, nor the significance of the ABM treaty, the treaties prohibiting nuclear weapons in outer space, or the treaty prohibiting anything other than underground nuclear testing. These were seminal events within arms control. The START I, START II, and whenever we get to START III agreements are piddling events by any measure. The reason is that we don't have antagonistic relationships, and we don't worry about nuclear war anymore. ... Why would societies take nuclear arms control with the degree of seriousness that they did even a couple of decades ago? *We don't.*
- To me, the purpose of arms control is to gather intelligence and talk to your adversaries. I don't believe that it has very many other benefits. ... Arms control is symbolic, and it allows you to spy on your enemies and to talk to your enemies, and START II is probably not going to help us on any of those dimensions, so I don't think it's the most critical thing on our arms control agenda. ...if it turns out that it's in our interests, cheaper, or for whatever reason, to reduce our arsenal unilaterally, I'm all in favor of it. Maybe they'll

follow suit. ... The Russian state is not our enemy in the way the Soviet state was, and we have so many different venues for communication, most of which are related to money. In the past, we didn't have those venues, so arms control was one of the few ways we had to keep talking. It seems less important to me now.

- How useful? That depends on how you want to measure the utility [of arms control]. If you want to measure the utility in terms of its contribution to strategic stability, that is, the decline or lessening of the prospect of war between the two sides, the utility was marginal. ... Of course, arms control can serve a wide range of political and strategic interests, some foreign, some domestic. ... Another way to measure the effectiveness of arms control is that it helps you avoid certain costs or reduce the costs of preparing for war or the consequences of war should it occur. By that scale, the usefulness of strategic arms control talks is marginally useful.

## **Section 4.2: Views About Unilateral Nuclear Initiatives**

**T**HE SUCCESS OF UNILATERAL AND RECIPROCAL ACTIONS BY THE US AND the USSR/Russia near the end of the Cold War was mentioned by some respondents as having several advantages over more lengthy and legalistic formal arms control processes. But others, most of whom were supporters of the START process, noted that unilateral actions lack verification measures and do not provide persistent venues for resolving differences of opinions, officially addressing questions and uncertainties, or promoting understanding. Following are some of the comments illustrating the pros and cons of unilateral approaches to reducing nuclear forces and alert postures.

### **Arguments for Unilateral Approaches to Arms Reductions**

- In September 1991, George Bush did more in one afternoon than all the arms control treaties of the Cold War when he unilaterally eliminated a whole host of missions and ordered A, B, C, D, and E, which was responded to first by President Gorbachev and then in another initiative by Yeltsin a couple of months later. The magnitude of all of that was dramatic, and that's the main reason why we have fewer weapons and the elimination of a host of different ones.

- The right way to think about arms control is to determine if there is something where we'll be better-off if we do it, regardless of whether or not another party signs on, and [then] if so, do it. It's pure selfishness; it's not utopianism.
- I would believe in arms control if governments could negotiate rapidly, and parliaments such as the US Senate or the Russian Duma could ratify, or accept rapidly, arms control agreements. But neither the governments nor the parliaments have shown that capability in the last ten years. Therefore, I would favor these unilateral approaches, and not just wait for the Russian force to go down. I would reduce our nuclear forces regardless of what Russia does, both because I expect Russia to reduce nuclear weapons for economic reasons, but also because I don't think we need large numbers of nuclear weapons, even if Russia kept every one of its nuclear weapons. Thus, I have not given up on the arms control process....
- We ought to decide what we want from our nuclear posture and just do it, and if we're concerned about safety and security of their [Russian] nuclear weapons—and we are—we should give attention to that, but that should be our main concern. It's absurd. We're not engaged in any confrontation with the Russians. Why START? We could try and cajole them to do this or that or the other thing. If there's a way of doing it, then just do it. ...the START process has really been overtaken by events.
- Arms control has served its purpose for the time being in that events will unfold, and if we don't get stuck in stubborn positions, then these large arsenals are now going to continue to come down, because nature's going to bring them down. ...the trend has started, we're moving down the path, their [Russia's] nuclear arsenal is going to get smaller and smaller. It's inevitably going to less than two thousand. It's going to happen, because they have no interest in spending the money required. The only thing that would make them spend the money is if we stubbornly insist that we maintain some artificially high level that has nothing to do with deterring the Russians, but instead has something to do with silly rules. Our real danger is that if we don't pay attention to what's happening, we will motivate the Russians to waste money that they don't want to spend on maintaining a nuclear stockpile that they don't want and that we don't want. ...we should not let hopes for START II and START III hang us up in levels that we don't want and don't need.
- My fear is that both sides are driving this into the ground. We've convinced ourselves that the arms control way is the peaceful way, the stable way, when in fact it's every bit the opposite. ...let's stop aiming nuclear weapons at Russia, and vice versa. ... The US can reduce nuclear weapons any time the president and Congress decide we're going to reduce our nuclear weapons. If

Russia does indeed reduce its nuclear arsenal, that would be a very good argument for the US to go ahead and do that. There is a level at which you need to be a little careful, but it's a heck of a lot lower than anything we're talking about in START II or even in START III.

## **Arguments for Formal Negotiated Arms Reductions**

- When the Soviet Union collapsed, there were substantial withdrawals and reductions with only an informal basis. Now, some people say we'll just keep reducing and everybody else will. It's much preferable to have agreements on how this is going to be done. Because when you look in this country at the politics of it, people have difficulty without a formal agreement, and I think it would be impossible in the present environment. It certainly would have been impossible during the Cold War, and it remains impossible, unilaterally, to dispose of all, or even most of your weapons. I think there has to be some international structure, some level of verification. ...and that, one way or another, involves agreements.
- There's now a cottage industry of people saying that the Russians can't possibly keep more than a small number of weapons in the future. You hear people talking about a few hundred. I think that is not correct. ... There are many ways that they can extend the life [nuclear weapons' life cycle], and the notion that all of this will just disappear is exaggerated. Clearly, it's a problem, and they don't have the money we do to make replacements, and neither side needs them all, but we have no idea what the future Russian government is going to be. ... Therefore, having START II and hopefully START III and going to significantly lower numbers puts a cap on what they can do. It also gives you tremendous leverage over all of the verification of the procedures and declarations connected with this. It gives you huge access to the country so you know they can't turn it around substantially without you knowing about it.
- Yes, I think there is some utility in the formal process, although it's less than before, and it may be waning further still. ... The informal approach avoids a lot of the political problems and costs of formal negotiations, treaties, ratifications, and the like. The problem is whether it's sustainable over the longer run. The answer depends in part upon judgment about, in the Russian case, whether or not their weakness is terminal or at least chronic. There is a virtue in having more or less explicit agreements about the shape of this world, so you can move on to other things.

- It's not outmoded to deal with the Russians bilaterally on these issues, because they are the other country with [large numbers of] nuclear weapons, and formal agreements are still of value. Secondly, the Russians will feel differently about it depending on if they reduce hand-in-hand with us, or if they reduce for economic reasons, and they just can't rebuild. How the Russians feel about things matters to us over the long haul. We don't want to be locked in a diplomatic war or any other kind of war with the country that has a lot of nuclear weapons. We would be better off engaging with them to bring nuclear weapons down to a level that they can afford and at which we would feel very safe. Bilateral agreements are still very important.
- The formal process might still have some advantage in terms of Russia still feeling that there's something special about it and its relationship with the United States. That might be an important dimension. Actually, I like unilateralism. Unilateralism was important toward the end of the Cold War—some of Gorbachev's initiatives are good examples. You can really create momentum that way.
- ...we should be moving ahead with the START process, and we should be willing to take some risks, such as some unilateral cuts to encourage Russia to match those cuts, as George Bush did.

### Section 4.3: Shape of START III

**R**EGARDLESS OF THEIR PREFERENCES ABOUT FORMAL ARMS CONTROL VS. unilateral initiatives, we asked respondents to discuss key issues that a potential START III agreement ought to address. Among the most important dynamics were (a) the perceived need to focus on limiting warheads rather than delivery vehicles, and (b) the relationship between significantly lower numbers of nuclear weapons and an increasing need for improved transparency and verification. In this section, we summarize representative comments about structural and numerical considerations, and in the following section, we provide selected comments about transparency and verification. Though we have separated many of the comments for organizational purposes, we note that most often the issue of negotiated numbers of nuclear weapons and attendant concerns about the need for verification were integrally related.

- START III should go deeper in terms of the numbers of weapons reduced. The reduction of a thousand additional strategic nuclear weapons does not provide a really serious qualitative security advantage. Where the value of START III ought to be is in the achievement of transparency measures that

are not part of the START I or START II agreements that document the number, the location, and the status of destruction of these weapons. That is what should be qualitatively new and better about START III.

- START III should be the beginning of a deep cuts regime that gets away from the old START model which just looks at launchers. ... Maybe you can lower the numbers some, but the challenge at this point is not so much going from three thousand to two thousand or one thousand; it's what's happening with the other stuff that still is being liberated from the arsenals. What are you going to do with that? That's the bigger issue. To me, a thousand or two thousand is just an academic exercise, the real big problem for security is what do you do with the stuff that's taken down.
- We ought to see how low a ceiling in START the Russians are serious about wanting. My hunch is that's going to turn out to be a number lower than a thousand in terms of their capacity to sustain.
- START I or a projected START II does not identify an equitable outcome. The Russians cannot sustain force deployments at anything like these levels, and therefore the setting of these ceilings or these standards are not really practical. The Russians cannot sustain a fifteen hundred warhead force out beyond a period of 2010. ... The Russian force is vastly weaker than the American force, and it is getting progressively weaker all the time. There cannot be a stabilizing agreement under these conditions unless you equate these conditions more than the current agreements do. That's a very fundamental problem.
- I would keep START III to numbers such as the ones that we've already been talking about, two thousand to twenty-five hundred. I would like to see them somewhat smaller, and I think the Russians clearly would like to see them somewhat smaller, maybe fifteen hundred, but the exact number is not too important. ... I would reserve for the next go-around, START IV—you can number things any way you want—much deeper, further reductions. In START IV...I also would try to begin to get a handle on the nonstrategic weapons, the tactical weapons, which are very complicated. I would go about establishing verified declarations on the total inventories of weapons, broken-down by specific categories. We talk about the agreements in terms of weapons, but we've really been controlling the delivery systems. As we move down, the weapons themselves are going to become more significant, and to get into the area of verifying declared inventories is going to be difficult. It's going to involve a lot of transparency, a lot of mutual cooperation and respect, and it's going to take awhile.



- If you can successfully go to fifteen hundred [strategic nuclear weapons], or whatever START III will call for, and have some workable approach to dealing with the nuclear weapons capable states outside the NPT, then I think it will be more plausible that you can go to even smaller numbers. ... Verifying residual nuclear weapons can be very difficult. But if it works, if people are cooperating and are making it work, they are going to be encouraged into accepting lower levels.
  
- Everything else being equal (which it's not), we ought to be able to come up with a START III with numbers around fifteen hundred [strategic nuclear weapons]. That is what the Russians would like, and we could probably live with it. ... The trouble is that everything else isn't equal; the Russians have been feeling particularly beleaguered over the last five years. First, we'll be lucky to get a START III agreement. Second, if current trends continue in the US—no CTBT and a possible national missile defense—we probably won't get any lower figures from the Russians. Because the central relationship is not cooperative, but potentially adversarial, they can't afford to come down lower.
  
- I would recommend keeping the START process going, but I wouldn't recommend doing anything within the START process that we wouldn't do without the START process. In other words, the US ought to identify the number of nuclear weapons it thinks it requires, and what they're for. It needs to identify the type of force structure that it needs. And if you can wrap a START III process around that to affect the Russian arsenal in a way that we think is advantageous, then sure, keep the process going.
  
- Short-term, I'd push for reinvigorating the START process with the Russians. Get to START III and even provide resources to help them build down. That's preventive defense, and it just makes a great deal of sense. No matter what happens to Russia in the future, if things turn sour, this is a good investment for us, because there's less of a threat out there.
  
- Increasingly, I think that START, as we know it, needs to be changed. ... The problem with START III is the lower numbers. Before, we were never that preoccupied with the number; we were preoccupied with the security and stability. What were we going to get out of this to make the US safer? Because just lowering the numbers increasingly becomes counterproductive. ... We need to restructure START in order to take into account tactical as well as strategic weapons. Equality in strategic numbers at low levels, and then a huge nuclear superiority by Russia in the Eurasian landmass, may adversely impact all Russian neighbors. ... The time has come to start dealing with a bigger problem, and it's admittedly a very tough problem, and that issue is offense and defense. We should be willing to discuss offense and defense together.

- I would go back to the Russians and say the time has come to get serious. Let us restructure the basic Helsinki package; we will have all the same issues, but we are just going to restructure it slightly. First, we're going to have a limit of something like sixteen hundred or eighteen hundred fast flyers...the ICBMs and the SLBMs. Then we are going to have a limit on the number of deployed warheads that includes those weapons plus weapons deployed with both tactical and strategic aircraft. I would equate the aircraft weapons, so if theirs happen to be more tactical, and ours happen to be more strategic long-range, fine, but they're now equivalent. Then we begin work on bringing down the total number of the stockpile by recognizing that each of these categories of weapons is successively more difficult to verify and to count. We can have a tight, verifiable limit on fast flyers and a lesser limit on the bombers, but the combined limit, including slow flyers, would be a higher number. My lower number might be something like less than two thousand for fast flyers, and my high number might be four thousand or less.... Then the next number would be how low we were prepared to go with our overall stockpiles, with some degree of confidence, with the recognition that our ability to deal with lower levels of fast flyers and other deployed weapons is dependent on how well we did on the broader stockpile. [Then] I am prepared to start bringing in the concept of defenses....

- I'm not against START III. All I'm saying is that we're putting way too much emphasis on it. ... Now, if I can get some things I want out of START III, and if it makes the Russians feel better that we're doing these reductions together, fine, let's do START III. But I don't think it's as important as it was when we did START I that we perpetuate this arms control thing. The important thing is what are we doing with the levels.

- If the Russians will agree [to START III], and if you can get a treaty negotiated quickly, and if it's not too costly to verify, it's worth doing. Internationally, a negotiated treaty is always better than a couple of unilateral actions.

## Section 4.4: Transparency and Verification

**H**AVING ACCESS TO ENOUGH INFORMATION TO ENSURE THAT ALL parties are complying with an arms control treaty has been one of the most difficult aspects of implementation. Verification provisions can be intricate and sometimes problematic, and some participants had misgivings that previous levels of transparency and previous verification arrangements have not always ensured compliance. Others noted that deep reductions will increase the importance of verification requirements,

since at very low numbers, noncompliance might confer proportionately larger advantages than would accrue with larger arsenals. Most were of the opinion that transparency and verification will become increasingly important considerations in future arms control negotiations and agreements.

- Transparency is great, and we should encourage as much transparency as possible from Russia, but I don't think it's enough. If you really want to go low, I don't think it's enough. You need verification. Because negotiation with Russia is so arduous, we sort of replaced the concept of verification with transparency, because it's easier, but it's not going to get you where you want to go if you really want to go low.
- ...substantial and symmetric transparency isn't as hard when you're dealing with very large numbers of weapons as it is when you get to small numbers. At small numbers, you care about missing a few. What we're trying to do is simultaneously reduce numbers and drive up the transparency requirement.
- If the Russians wanted to be constructive in what they're doing, I think that they would accept enhanced transparency. It would be the most important thing for them to do. It has to do with what's going on in their nuclear weapons complex. It has to do with all sorts of things, and it would be important to get that dialogue back on track. Transparency has become exceedingly important. ...there's room for great progress there, and that's the area I think is more important than numbers right now.
- One of the other main arguments now for sustaining some kind of formal set of agreements has to do with the corollaries to it, which give us an important window and additional leverage to act. Obviously important are the verification provisions or arrangements that the treaty details, and so on. But the verification provisions ought to be much less complicated than they have been. If we do get to a real START III, I would like to see it made a lot simpler and to actually get rid of some of the very elaborate verification baggage that has been associated with it. ... We are probably attaching a lot more political importance to the treaties than maybe the agreements deserve, but having said that, at the moment, I would like to see the full arms control process sustained.
- Right now they [arms control processes] are not very viable. But the question is what do you replace them with? If your answer is matching unilateral reductions, eventually that wears itself out, because what you're losing is your verification and your assurances. I don't think the US will go very far towards deep reductions if we don't have a handle on what's happening to the weapons that

the Russians are taking down. ... The lower you go without a handle on where those warheads are going, you get much more uncomfortable.

- The claims made for verification of these treaties are wildly overblown. But even if they were true, the fact that we never, ever complain about violations when we find them (and on occasion we have found them) does tend to make a mockery of the whole exercise, and it further erodes the value of our arms control processes. ... It's an absolute joke to think that we're going to be able to monitor the actual status of Russian nuclear warhead inventories. And the idea that you're going to fold into the counting game tens of thousands of things ranging from suitcase bombs to short-range rocket warheads is just too hard. That's part of what I find so frustrating about the leaps of faith that the arms controllers insist on having us take. ...this is really exercising hope after hope after hope, despite lots of bad experience.

#### **Section 4.5: Future Arms Control Directions**

**M**OST PARTICIPANTS CITED TWO REQUIREMENTS FOR THE LONG-TERM future of nuclear arms control. One is the challenge of transitioning from bilateral processes between the US and Russia to multilateral processes that include other nuclear powers. The second challenge is how to transition from a focus only on strategic nuclear forces to one that incorporates all kinds of nuclear weapons. In the views of most respondents, distinctions between strategic and nonstrategic nuclear weapons increasingly have become artificial and irrelevant. This blurring of distinctions is further complicated by what appears to be an increasing reliance on nonstrategic nuclear weapons by Russia in the face of its deteriorating conventional forces. Following are views about the future challenges of arms control.

- The introduction of the nonstrategic nuclear weapons reduction issue in the START context or the bilateral US/Russia context, is problematic and probably not advisable now. But following the conclusion of a START III agreement, in many ways it becomes the next issue for the US and Russia, and it is going to be an issue that is crucial to what many people think of as the next phase of nuclear arms reductions—which is five power nuclear arms reductions—because most of the other nuclear weapons of China are tactical or medium range nuclear weapons. ... What's difficult about it is the fact that the sheer numbers of tactical nuclear weapons in Russia are very large, and they're very hard to account for. That's what makes the accounting procedures in START III very important,

because this is the foot in the door to the procedures that are going to be necessary to deal with many other arms reduction problems.

- Either you expand the so-called strategic weapons talks to include these kinds of nuclear weapons [nonstrategic], or set up another subsidiary or long-term negotiations which aim to reduce the numbers. And here, if we could find good, verifiable means, I would try to reduce them to zero, because their use is not for deterrence so much as it is for, perhaps, practical war fighting.

- To suggest that a tactical nuclear weapon is somehow free and easy, and strategic weapons are the only ones you count, is to indulge in a kind of legalistic fiction.

- Third countries—in this case China, Great Britain, and France—are not prepared to enter into the numbers part of arms control. ... Since the Russian/US relationship isn't completely cooperative, what we can do is to try to engage the third countries in all the other aspects of strategic and nuclear arms control such as operational, monitoring, and transparency issues, but not levels of nuclear weapons.

- The Russians believe tactical nuclear weapons are useful. They have already indicated that they're quite reluctant to get too deeply engaged in tactical nuclear weapon discussions. Limitations would only work against them, since they do have more than we do, as we are both aware. It can't be an attractive proposal for them; they will have no interest whatsoever in a unified number until their strategic situation looks better. They might agree to a separate level of seven thousand or nine thousand, but they would have to worry about drawing attention to themselves, because they probably would want a number so high that they'd be better off not even talking about it. They probably sense that this is not a winning political discussion for them.

- You don't get too far beyond Helsinki and the framework agreement for START III before you have to start thinking in terms of warhead regulation rather than delivery vehicle regulation, and before you have to start thinking about multilateral rather than bilateral arms control processes.

- The next arms control effort shouldn't be START. It should be an accounting of nuclear materials and warheads to drive down the uncertainties so that we know where we'll be when we finish. You never know where you finish with START. It's a rolling forward proposition; it's like Jaws I, II, and III. We need to have arms control that has an end point and that has a clear and tolerable uncertainty budget and target phases. ... We need to agree that we ought to come down, that we don't need as many as we have, and implement

ways of putting weapons usable materials in forms that make them very difficult to weaponize. We need to ban nuclear production so that you don't have additional stuff coming on line....

- I think it [arms control] still has utility. But with the US decision to actually deploy national missile defenses, if we continue to care about the stability of our deterrent relationship with Russia, then we have got to basically renegotiate with Russia and agree upon a new relationship between offenses and defenses. And if that involves significantly lower numbers of nuclear weapons, then other powers like China, France, and Britain, should be involved as well. Now, whether that's formally negotiated or simply discussed does not mean that we need to open up multilateral negotiations. We will need to rethink that whole relationship between offenses and defenses, and not just unilaterally, but in a way that brings Russia, in particular, and perhaps China and other declared powers, as well, into some implicit consensus. While this is a huge challenge, what START III offers is a way to get beyond the impasse of START II and the opportunity to get to the next level of arms control in the context of a different defense relationship as well.
- Arms control treaties will move more and more in the direction of very narrow, fairly unrestrictive treaties, if there are any at all. And I think we'll find an abrogation of the ABM treaty, or at least the exercising of the six month national security clause. We don't need to abrogate it; we can get out of the treaty by exercising it.
- It certainly would be beneficial if we could continue an arms control regime, because it would ensure *de jure* governance over the US and Russian arsenals. ... I would be comfortable in a situation in which we are carefully monitoring the status of the real Russian nuclear capability and tailoring our own force structure to it. ... But I am not *completely* comfortable with that. It would be nice if we could do it on paper and lock them into an agreement.
- I think arms control now has to focus on stability of a different kind. Given the world where nuclear weapons are going to be present, and perhaps more countries than have them now will have them, how can you maximize stability and security in that environment? And it's not necessarily going from MIRVs to single warhead weapons. It's a very different issue, and it brings closer the interrelationship, for example, of ballistic missile defenses and offensive arms control.
- We don't really need START in order to have a dialogue, because there are all kinds of dialogues with the Russians. Actually, START II is, at the moment, serving as an impediment to arms reduction. It's a paradox, but I think both the US and Russia would like to reduce their strategic forces way below the

START II levels, and yet...because of arms control, we're stuck at these levels that nobody wants. ... We really need to take a radically new approach to arms control based on the proposition that what is needed is a sense of mutual confidence between the two parties. The numbers are not nearly as important as the dialogue, but the numbers have become symbolically important, so the real problem is how do you get from the old regime to a new regime.

- The distinction between strategic systems and tactical systems disappeared a long time ago. ... In terms of the people that we are most interested in, which is our allies that surround that area, the Russian tactical weapons are very strategic. They're not strategic to us, but they're strategic to all of those people who will have to become engaged once the levels get down below about twenty-five hundred. If we really want to go down further, we have to consider those kinds of weapons. ... If we're going to count all the French warheads and all the British warheads and all the Chinese warheads, then we're going to have to count all of our warheads and all the Russian warheads. Eventually we have to come to that, so we might as well get started and at least begin to introduce the issue.
- We are looking out over a period of forty years, and we cannot be guided exclusively by what the Russians are doing. That is the presupposition of much of the arms control literature today, and virtually all of it in the past. But we are dealing with a world in which the Indians, the Pakistanis, and the Chinese have expanding capabilities. And so-called "rogue" nations will be in the game, and therefore the notion of matching one's numbers against the Russians is not valid.

## Section 4.6: Views About the CTBT

**D**URING THE COURSE OF CONDUCTING OUR INTERVIEWS, THE US SENATE declined to ratify the CTBT.<sup>3</sup> Thirty-one interviews were conducted prior to Senate consideration, and nineteen interviews were conducted subsequent to Senate rejection of the treaty. Debate about the advantages and disadvantages of the CTBT had been underway for a sufficient period for the debate to have matured among the security policy experts we interviewed, and opinions ranged from strongly supportive to strongly opposed, including some who dismissed the CTBT as irrelevant. We have arranged the following commentaries into groups that address the CTBT and its relationship to nuclear

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<sup>3</sup> The United States signed the Comprehensive Test Ban Treaty on September 24, 1996. The US Senate declined to ratify the CTBT on October 13, 1999 by a vote of 51 to 48.

proliferation, international norms, verification issues, the ratification process, long-range implications for the US nuclear arsenal, and the future outlook.

## The CTBT and Nuclear Proliferation

The most frequently discussed CTBT issue among our participants was its potential implications for further vertical and horizontal proliferation of nuclear weapons capabilities. Advocates of the treaty argued that it would prevent the nuclear weapons states from developing new nuclear weapons technologies that could not be tested, and for other states the CTBT would make the acquisition of nuclear weapons capabilities less likely, because they could not be tested. Critics of the CTBT argued that since almost all states are already party to the NPT, which pledges non-nuclear weapons states not to acquire nuclear weapons, a ban on testing is unnecessary and would not stop a country that is determined to acquire nuclear weapons, whether they have signed the NPT or not. Iraq, Iran, and North Korea were cited as examples of signatories to the NPT who are seeking nuclear weapons, and India, Pakistan, and Israel were cited as examples of states outside the NPT who acquired nuclear weapons. Following are quotations illustrating the kinds of arguments made about the relationship of a CTBT to nuclear proliferation.

- It's important to lock down nontesting for the declared weapons states. Sooner or later, if the treaty isn't ratified and doesn't go into effect, countries will be tempted to start testing again. Then, fueled by fears that the other guy's weapons will be better and all the rest of it, the gloves will be off for competition in the field of new weapons. So, I see preventing that as a main benefit of the treaty. Of course, if we're talking about India, Pakistan, Israel, or about countries like Japan becoming nuclear states, it is accepted that if you want a fully developed, fully articulated arsenal, you have to do testing. A test ban also exercises restrictions and limitations in that regard, and that makes it worthwhile.
- There are various nonproliferation benefits that are important, especially at this stage, because of the failure to achieve nuclear arms reductions, and because of the fact that the NPT is particularly fragile, and the CTBT is a part of fulfilling Article VI of the NPT.
- I don't see that the CTBT adds terribly much in the way of nonproliferation, because all of the states who are captured by it are already captured by the NPT, and the states that are most worrisome from a nonproliferation point of



view are not going to be inhibited by another treaty. Where it does damage is that our rejection of the CTBT antagonizes many disarmament advocates among the non-nuclear weapon states. We made various promises in connection with the indefinite extension of the NPT which we now appear not to be keeping.... How are you going to persuade others to join if you're not prepared to join yourselves? So in that kind of multilateral setting, it's been a political setback. But you want to calibrate it properly; I don't agree with this idea that it's the end of the world.

- The belief that whether or not the United States tests nuclear weapons, for example, is going to have much of an influence on other nations that might have a serious interest in acquiring them is wishful thinking. Saddam Hussein or Iran or North Korea are not reaching for nuclear weapons because they see the United States testing or refraining from testing. They're reaching for them for good, solid, national security reasons that they themselves see.
- Both of these nations [India and Pakistan] are going to continue building nuclear arsenals irrespective of what the US or anyone else wants, to include testing if they deem it necessary to establish confidence. In that case, there is not going to be a comprehensive test ban regime. People who are emotionally caught up in the CTBT won't come to grips with that. ... What I'm saying in the case of the CTBT is that just because this vehicle has proved to be nonviable does not mean that the concept of extremely limited or no testing must be abandoned. What's worth saving is the notion that less testing is a good thing, because it goes to the question of relevance and saliency.
- I would take issue with the assertion that the US and other nuclear weapons states' activities have had no impact on India and Pakistan. I would say that the nonproliferation regime and the nontesting regime have certainly restrained both nations from testing. They have not been restrained completely, obviously, but it's pretty clear that both nations are going to test as little as they possibly can, given their domestic and political situations and the pressures to test.
- The Senate drove a stake through the heart of the CTBT. Whatever you think about the merits of that treaty, its importance and consequence go far beyond the immediate terms of the agreement itself. It was held out as the principal piece of evidence that the nuclear weapons states would begin to meet their obligations under Article VI of the NPT. It's a concrete measure of commitment.
- The test ban is a perfect example of needing to take some very small risks about future confidence in the US arsenal for the benefit of propping up the nonproliferation regime politically, and for technically denying high confi-

dence development to other nations of smaller, lighter warheads that they might put on ballistic missiles and send over here.

- ...CTBT represents something politically that's very important. It is partly marginalization, and partly it has some practical implications in terms of weapons that certain countries can test and design and wouldn't be willing to deploy without testing.
- Why was the Comprehensive Test Ban Treaty important? It was not because you gain anything by it per se, but because it became part of the nonproliferation debate. These countries, one hundred and eighty-five nations, [have signed] a nonproliferation treaty because they don't want to see us continuing to test and improve weapons. ... [The CTBT] was a political component of nonproliferation.
- The case for the CTBT includes the consideration that it is a compelling argument for standardization, for going with the design that you know worked when you were able to test it, and for doing minimal tinkering thereafter. ... You can identify worries about the CTBT that are serious, but they have to be weighed in the balance, and on balance, it helps us prevent the acquisition of advanced nuclear capabilities by other states which have already crossed the threshold, and it helps us discourage other states from moving to deploy nuclear capabilities without the confidence associated with having tested them.
- My own view of the CTBT is that its importance was overrated substantively and underestimated politically. There are one hundred eighty-seven signatories to the NPT who already are committed not to have nuclear weapons, and not to test them, and not to possess nuclear weapons technologies. By definition, if you're never going to touch the technology, you're not going to test. So the incremental value added of having a CTBT is small. Who does it really impinge on? There are seven states in the system that have nuclear weapons (eight if you count Israel). I don't subscribe to this idea that the CTBT is an important nonproliferation measure.
- It [the CTBT] is not such a powerful instrument. I don't think we need to test, but as a tool of policy, it seems to me to be weak. It's hard to say: "Oh, it's enormously important to get that done," because why is it so enormously important? Who is it going to influence enough to worry about? And the answer is: nobody. If it isn't going to influence anyone, why is it so important? I wouldn't oppose ratification, but I doubt it's going to do a lot of good.
- I certainly think ratifying the CTBT would be a good idea. It's not that I think the treaty itself is that important, and unlike many of my left-wing colleagues, I think there are very serious costs to ratifying the treaty, but I think it

really does send a signal. The obvious unfairness about the NPT is somewhat mitigated by the more fair, evenhanded treatment of the CTBT.

- We took a step backwards when the Senate defeated the CTBT, because that is part of the nonproliferation effort. We have to be willing to accept constraints on our own behavior if we want others to accept constraints on their behavior.
- There really isn't any utility to the CTBT. There wasn't when they negotiated it. The NPT, as a pledge of one thing and another—that's got some utility to it. The CTBT has little or none, especially since the recent handful of folks who've come into the nuclear club have done so under circumstances which the CTBT would not have prevented. The Pakistanis knew their weapon was going to work. That wasn't the issue. They just had to demonstrate it. So I'm not sure what a CTBT means. The North Koreans haven't tested, but the US government's policy is premised on the notion that they have one, possible two or more, nuclear weapons. Are we assuming that they have them, but that they don't work? I don't think so; therefore, what's the point of a CTBT? As a practical matter, it has no effect. As a laudatory, moral, chest-thumping deal, I don't know why a statement about a moratorium is not sufficient; that ought to be enough.

## **The CTBT and International Norms**

Another factor often advanced by advocates for the CTBT was the utility of establishing and maintaining normative international standards that condemn nuclear testing. Following are illustrations.

- The more nations you can get to ratify such a test ban, and the longer it exists, the more pressure there is on other countries to join, and the more difficult it is for a country to remain out. ... It has a value whenever you have any of these international treaties of making it more difficult for countries that would want to go against the prevailing trends that make it clear what the international view is. It also makes it easier for other countries to say that if you don't join this, then you're not really going to be part of the international community.
- We saw this operate when the French continued to test, and the Chinese continued to test, and then we saw the Indians and Pakistanis test. The world was upset, because it's no longer acceptable to test nuclear weapons. ...we seem to have crossed into an area here of what is acceptable world behavior and what is not. And it's no longer acceptable to test nuclear weapons. It's a normative change, and that's quite a significant development. I would be happier if we did have a ratified comprehensive test ban and everything entered

into force, and we went ahead with some more stations, and all of this, but I don't think anybody is really going to test any more.

- The real issue on CTBT, frankly, is not so much whether we can reliably maintain our own arsenal, but more the impact it will have on the international norm against nuclear weapons acquisition and use. ... In reality, is anybody going to go out and acquire nuclear weapons tomorrow because the CTBT wasn't [ratified]? No, but it's a brick in the wall, and the more it gets chipped away at, the more some countries may decide to revisit that question and pursue their own capabilities if the system isn't holding the proliferators in check.
- I don't think that we need to continue testing (and we haven't) to maintain credibility of our nuclear stockpile. Because as long as we're not testing, we can beat up on others if they deviate from what seems to be increasingly a norm where you don't engage in nuclear testing. Even the French and the Chinese are figuring this out.
- The CTBT is hugely symbolic, and the symbolism of the Senate not only refusing to ratify it, but also not debating the treaty, was a negative in terms of our international image. Also, it really did strike a blow to the norm of nuclear nonproliferation.
- There's a norm out there that says thou shall not test, and that has been a constraint that has been greatly felt by India and Pakistan. The fact that India tested and then said that it was done, was clearly in the context of, "we have to minimize the damage of this, and we have to get out of this business as soon as we can."

## **The CTBT and Issues of Verification**

One of the limitations or criticisms cited by those opposed to a comprehensive test ban dealt with the uncertainty with which current and projected monitoring systems could detect very low yield nuclear tests. Opponents of the treaty argued that low level tests that have military significance could not be distinguished from other types of underground explosions. Supporters contended that the additional monitoring stations called for in the treaty would substantially improve current capabilities to detect underground and underwater nuclear explosions, and that any tests that were small enough to avoid detection would have little if any utility for weapons development.

- My premise is...that there is a threshold below which you can't detect a nuclear test. They can be decoupled; they can be conducted at a level that's in-

distinguishable—from a seismic point of view at least—from a conventional detonation. So we have no way of knowing whether people have stopped testing, and there is some evidence that they have continued. It's ambiguous, and it's debatable, and it will become more so as people refine deception techniques. ... It serves their purpose to stipulate that everybody has given up testing, and that there's now an international norm.

- ...the treaty verification system plus the civilian monitoring network of seismic stations and the national technical means provide assurance that tests of military significance can be picked up. So can there be one or two tests that are conducted without absolute detection? Yes. Do those matter? Not necessarily. Given the potential for unverifiability, are we better off with the CTBT than without it in terms of detecting nuclear tests? Of course. For those people who say that the test ban is unverifiable, their prescription is to discard the best existing monitoring tools and additional monitoring tools that we have access to, so it's kind of an illogical position.
- What I would favor would be a special treaty where we would be certain that those tests that are prohibited could be verified, because even now with improved technology, when you get below a certain threshold, you can't be absolutely confident. So we shouldn't have a treaty which limits things we can't verify.... It also would be a bad outcome to have a vote in which the Senate approved a truly comprehensive test ban which didn't allow us to do very low yield tests when others could do them without verification.
- If anybody wants to violate a test ban treaty, they're going to violate it. Countries will sign up to test ban treaties only after they think they don't need to test anymore. Then, if they decide that they're going to want to test, they'll find a way around it.

## **Ratifying the CTBT**

As previously noted, most of our interviews were conducted prior to Senate consideration of the CTBT. However, a few of those interviewed after the Senate declined to ratify the treaty commented on the ratification process and its implications.

- The truth is that facts and importance had nothing to do with the defeat of the CTBT. That was about political retribution, of miscalculation by NGOs and the White House, about misreading the honest and the dishonest concerns of fifty-one senators. It was about the breakdown of dialogue, failing to listen, or even

to count votes, the first rule of legislative politics. It was a painful lesson that simply moralizing and breast-beating don't cut it when opponents are equally persuaded of their moral position and have the legislative high ground.

- Test bans are gimmicks. They have little to do with the substance of the problem, but they still have great popular appeal. ... But I'm conflicted now, because the CTBT is a signed treaty, and I have a problem with the United States negotiating treaties and then not ratifying them. Rightly or wrongly, we've been in the lead on this issue. It sends terrible signals about US leadership and the confidence people can place in us if we put forth all this effort and then back away at the end. ... If I had my way, I would ratify it with a sunset provision that says we'll abide by it for five years or ten years, and then we'll review and see whether it is doing the things that its supporters hoped it would do. If it is, we'll re-ratify it; if it isn't, it would expire. But I don't think you can do that constitutionally.
- In my institute, we heard that the American public support of the Comprehensive Test Ban Treaty was a force to be reckoned with. It was supposed to ensure that the Senate ratified the treaty, but it didn't happen. We still don't understand why.
- ...while the Senate hasn't ratified the CTBT, we have, in effect, been observing the test ban for five or six years now. It didn't influence the Indians or the Pakistanis. That illustrates my view about the benefits of the CTBT.
- [It's] not because I think the CTBT will qualitatively change our security environment, but because of the image of disarray and weakness that the rejection communicates to the international community. Additionally, on the margin, CTBT is potentially helpful. The most dynamic members of the potential nuclear club are the ones that need to test. I like putting at least moral pressure on them. We shot ourselves in the foot, both in regard to diplomacy and prestige and also on a marginal basis with regard to security.

## **Implications of the CTBT for the US Nuclear Arsenal**

One line of concern about the CTBT related to its implications for the viability and the reliability of the US nuclear arsenal. Some critics based their opposition primarily on their doubts that efforts to maintain a reliable nuclear arsenal without testing would be successful over the very long-range. A chief criticism was that the CTBT obligates the US to forego nuclear testing in perpetuity, and while some critics acknowledged that abstaining

from testing might not threaten the viability of the US nuclear arsenal for several years, they were doubtful that its reliability could be guaranteed in the absence of testing for the indefinite future. Others disagreed. Following are some of those comments.

- The Senate's defeat of the CTBT was the proper step. If we're going to possess nuclear weapons, we need to test those weapons to ensure that they are highly reliable. We have to be sure they'll work; we should have no doubts in our minds. Can we postpone it for five or ten years? Certainly. The integrity of the arsenal will not disappear in ten years. However, I remain unconvinced that we can accomplish all that we need to accomplish through computer modeling and simulation. There are profound limits in the certitude about the arsenal's reliability unless we detonate nuclear weapons underground.
- Just listening to the debate, I was not persuaded by the arguments that it would compromise maintenance of the arsenal if we couldn't test, or that we couldn't verify the treaty. You know the arguments pro and con, and I think there was something to the arguments against the CTBT. But I tend to think, in a larger sense, that the weight of those arguments was not as heavy as the argument that we really do want to have a world that cooperates with enthusiasm with the non-proliferation treaty, and that the CTBT would further that larger objective.
- The nuclear testing issue is one that is eventually going to return, because we cannot be sure about a weapon's reliability until it is put in a hole after ten years of no testing and it actually detonates properly and generates the yield that is expected. We might be surprised that it doesn't work quite as we expected when we finally do that some day.
- The impact of the CTBT is a very complex one, and we won't know what it is for decades. But I agree with the CTBT...for the following reason. We have a good shot at maintaining a reliable, safe, and secure stockpile of the kind we need without testing for a long time to come. And it gives us some moral ground that is probably useful to say that we're not conducting any more testing.
- I'm not a fan of test bans; I think we have to do some testing. ... We need some testing, if for nothing else but safety and reliability, but also in terms of warhead development. Computer simulations are fine, but there's nothing like the actual tests. So I don't think it buys anything, and it initially restrains our ability to modernize the force, and to test it for security in the long run.
- It's very hard if we continue testing to convince anybody else not to test. Their tests are more important to them than our tests are to us, because, first,

we have a thousand tests under our belt, so we know a whole lot. Second, we have some of the best two dimensional radiographic testing machines that can really do very much of what needs to be done. Do we need to improve our yield to weight ratio? No, we don't. We don't need any more improvements, but we do need to maintain credibility and reliability in what we have. That's a very important national goal.

- I'm afraid the problems with the CTBT are greater than the benefits, and we went ahead and signed it, but my feeling is that it was at a pretty high price. And it's sort of hooked up with the nuclear labs in lots of ways. ...the CTBT and the whole idea of having a computer-based stockpile stewardship program ended up with the US paying probably an unreasonably high price. And what did we buy with it? It didn't stop proliferation in Pakistan and India; it didn't in Israel or any other place. If they really want to, they will go ahead, so I don't think we buy a great deal with it.

- The CTBT is an example of political momentum from the past. In the eyes of many people in the academic scientific community, some of whom have guilt feelings, this is unfinished business from the 1963 Limited Test Ban Treaty. They never thought that underground testing would be as effective as it was, and this is closing off something else, but it is closing it off for reasons that are far weaker today than was true in the past. Moreover, while we clearly can live with a limited test ban, in the sense of an occasional test to validate our nuclear stockpile over the long run, remember that this treaty is for perpetuity. We cannot live with no testing at all in perpetuity and maintain a reliable deterrent.

- Presumably the reason that you want a comprehensive test ban is to prevent other countries from developing the weapons. That hasn't been highly successful in the past, and I don't have any indication it will be in the future. If a country wants to produce a nuclear weapon, they're going to produce it no matter what we do, and so I don't think the comprehensive test ban is a successful strategy. If we are to maintain some limited stockpile, we have to be sure that it works. I don't see how we can be sure that it works if we don't test periodically underground—in very safe, noncontaminating conditions.

- If the CTBT is ratified with conditions, which is the way it's set up, and if those conditions are fulfilled, then it's a good deal; it's in our national security interests to do that. There are six conditions: one said there will be a stockpile stewardship program; another said the laboratories would be supported; there's another one that said we would continue to work hard on verification; another said we would support intelligence efforts in this area. The fifth one said that we would maintain the Nevada Test Site so that if we ever did have to resume testing, there would be a place to go back and test. And the sixth



was a very interesting one which said that the president has to certify every year to the Congress—and the laboratory directors and the Commander-in-Chief of the Strategic Command also have to give their recommendations to the president—about whether there are any problems in the stockpile that require resuming testing. ... That certification process is key to maintaining the viability of the program. So you're continually asking the question: is maintaining that treaty in our national interest? You're not saying that it is, and therefore I'm going to forget about nuclear weapons.

- Obviously, you can get along for some decades without testing, but that you could get along without testing for perpetuity strikes me as probably wishful thinking.
- The policy that I believe this government is pursuing is one best described as the House National Security Committee put it a couple of years ago—“erosion by design.” I believe they are pursuing a program of denuclearization.... And a critical component of that, as they have understood from the beginning of the effort to get a comprehensive test ban, is that the effect of a cessation of testing would be to introduce uncertainties and, over time at least, to erode our confidence and presumably, therefore, others' confidence in the quality and capability of US nuclear deterrence.

## Outlook for the CTBT

- ...at this stage, for the CTBT to be ratified and to endure, there's going to have to be a resumption of movement toward restraint of the big nuclear arsenals, coupled with demonstrable willingness on the part of some of the potential proliferants to exercise restraint.
- I think it [the CTBT] is the wrong thing to do at this time, because it misleads people about what it is we ought to be doing, and it gives them false confidence in something which, at best, is difficult to verify. It will distract us from reducing our uncertainty about other nations' nuclear holdings. I would put the reduction of these uncertainties first. I would put a CTBT last. I don't think one can make an in-principle argument against reaching a CTBT, but it is wrong-headed and dangerous to attempt now.
- Arms control is best described as a complex net of interacting agreements, none of which by itself is absolutely crucial. Taken as a whole, they provide some security. From that perspective, the loss of the CTBT, at least for the moment, merely means that one strand in the warp or weft of this broader fabric is missing. It doesn't mean that the whole piece of cloth no longer has integrity.

## Section 4.7: Characterizing Group Views

ONE OF THE FEW AREAS OF GENERAL CONCURRENCE TO EMERGE FROM our discussions with participants about nuclear arms control was that the numbers of nuclear weapons have become relatively much less important than during the height of the arms race of the Cold War. We will address this issue further in the following chapter, but discussions of strategic arms control necessarily involve numerical levels of nuclear weapons, and we found widespread agreement across each of our four groups that the numbers issue is of decreasing importance until extremely low numbers are contemplated.

As might be surmised from the commentaries provided above, intergroup views about nuclear arms control were sufficiently differentiated to provide useful comparisons, and some of those differences are characterized below.

### Group One

Members of Group One were among the strongest proponents of both the START process and a comprehensive ban on all nuclear weapons testing. Denuclearization was perceived as an important strategic objective, and arms control processes, supplemented where practical with unilateral initiatives, were seen as vital and necessary instruments for moving the world away from dependence on nuclear security. Most advocated very deep reductions in the size of nuclear arsenals, and the strategic arms limitations agreements were considered to offer the most effective mechanisms for achieving them. While acknowledging that the bilateral model eventually will need to be broadened to accommodate a multilateral approach, most considered reducing the large arsenals of the US and Russia to be the overriding near-term objective. Most group members supported bilaterally reducing those arsenals to the levels of the other nuclear weapons states before attempting to widen the arms control process to include China, France, and Great Britain.

While disparaging recent nuclearization efforts in South Asia, most group members considered the lack of action by the declared nuclear weapons states to more sharply reduce arsenals as having contributed to the decisions by India and Pakistan to develop operational nuclear forces. This group considered very deep reductions to be the moral and legal obligation of the nuclear

weapons states under provisions of the NPT, and they conceived of those steps as important interim movements toward eventual nuclear abolition.

Similarly, they considered the CTBT to be a crucial tool in evolving international norms against nuclear weapons, and strongly supported its ratification and implementation. The CTBT was valued both for its expected inhibition of vertical and horizontal nuclear proliferation and for its normative contributions to an international community in which the possession of nuclear weapons increasingly would be outside acceptable state behavior. As noted in earlier chapters, Group One members exhibited more of a world community perspective than any of our other groups.

## **Group Two**

Most members of Group Two also strongly supported strategic arms control, including the START process and the CTBT, although for some, support for both was more equivocal and conditional than that voiced by their counterparts in Group One. There was almost unanimous agreement that the strategic relationship between the US and Russia has fundamentally changed such that current numbers of nuclear weapons are unnecessarily high, and that the US and Russia should substantially reduce their arsenals by whatever mechanisms prove most politically viable. Most members of the group were sensitive to Russia's plight, and considered agreements for mutually lowering the two arsenals to be preferable to depending on atrophy of Russian capabilities from economic limitations. The idea of the US waiting for the Russian arsenal to decline from the "forces of nature" and then matching with unilateral US actions was considered both unwise and counterproductive for long-term US-Russian relations. Members favored a much more proactive and engaged process in which the bilateral arms control relationship is nurtured and used to reduce both sides to levels of one thousand or fewer strategic nuclear weapons, with reciprocal unilateral initiatives employed where feasible and when necessary to stimulate formal processes.

The CTBT was seen as a low-cost, low-risk opportunity for the US to further the embryonic norm against nuclear testing currently sustained by self-imposed moratoriums. Members argued that US stockpile reliability can be assured without nuclear testing, and they considered the CTBT to be a critical stimulus for re-energizing the nonproliferation regime and for revitalizing a leadership

role for the US. Their perspectives were decidedly internationalist, and they considered arms control processes to have both substantive and symbolic value.

### **Group Three**

Most Group Three members were not opposed to arms control processes, but some considered the shift in strategic relationships in the post-Cold War era to warrant rethinking the bilateral model developed during the Cold War. Some members were discouraged by the slow movement of the START process, and they questioned its future utility. Others advocated unilaterally determining US force structures and postures independent of lengthy arms control processes and then adopting them regardless of Russian actions. Others argued for allowing the Russian arsenal to come down as a function of its weakening economic base and then setting US force structures and postures accordingly. Regardless of differences in preferred mechanisms, most members of Group Three concurred that the US nuclear arsenal could safely be decreased in size, and if arms control mechanisms afford efficient means, then they should be pursued. If they do not, they should not be allowed to prevent US restructuring.

Some members viewed the CTBT as largely irrelevant, but others worried about the long-range viability of the US arsenal in the absence of testing. Also there was skepticism about the CTBT inhibiting proliferation behavior by states such as Iraq, Iran, and North Korea, and some concern about potential Chinese and Russian cheating. Members doubted that the CTBT could be verified, but some members thought it was sufficiently beneficial to warrant ratification even though verification is problematic.

There was an inclination among Group Three to determine the strategic requirements of the US more independently than during the Cold War era, though that did not equate to a complete disregard for Russian considerations. It seemed more to be an acknowledgement of what members perceived to be changed strategic realities and a very different security environment. This perspective could be characterized as more independent than the perspectives of Groups One and Two, without implying an overt nationalistic or isolationist bent. The approach was to use arms control where it meets and advances US security objectives, but not to be wedded to past processes that may not always be appropriate to changing strategic relationships.

## Group Four

Members of Group Four were more skeptical of arms control processes and their prospective security benefits than any other group. Most were pessimistic about the capacities of arms control processes to accommodate deep reductions in nuclear arsenals, and some considered very low numbers to present substantially higher risks of nuclear miscalculation. They judged the verification mechanisms of previous agreements to be insufficient, and were very pessimistic about the likelihood of incorporating effective verification in future agreements involving warhead limitations rather than controls on delivery systems. They were cautious about reducing "strategic" weapons without any controls on "nonstrategic" weapons, noting that distinctions between the two have largely disappeared and that Russia has a large but unspecified number of nonstrategic weapons that could pose strategic threats to US allies in Europe. They favored allowing Russia's nuclear forces to be reduced in accordance with their economic capabilities, and were skeptical that the START process offered much future utility.

Most were strongly opposed to the CTBT, considering it useless for preventing proliferation and dangerous for the long-term viability of the US nuclear arsenal. They judged it impossible to indefinitely ensure the reliability of US nuclear weapons without ever again testing, and considered the "in perpetuity" prohibitions of the CTBT to be unacceptable.

Members of Group Four thought that US and international security could best be ensured through strategic advantage, and they advocated maintaining US superiority in nuclear weapons capabilities. Their perspective was more nationalistic than any of the other three groups, but not isolationist. It was a position in which US international leadership was thought to be best maintained from a position of relative strength founded on nuclear deterrence. For most members, arms control was but one of several mechanisms that could be employed toward that objective. They supported its use where beneficial, but saw little intrinsic value in arms control as an essential security concept.

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## ***Volume II: Chapter Five***

### **Nuclear Forces and Infrastructure**

**O**UR EXAMINATION OF PARTICIPANTS' VIEWS ABOUT NUCLEAR ARMS control in Chapter Four was indirectly related to the size and structure of nuclear forces. In this chapter we extend our focus to include specific preferences about sizing and posturing US nuclear forces and their associated infrastructure. In the first section, we present views about the preferred size and structure of the US nuclear arsenal. In the second section, we summarize perspectives about the viability of current strategic nuclear basing and alert posture issues. We present discussions of nuclear infrastructure requirements in the third section, and in the final section we characterize group views about US nuclear forces and infrastructure issues.

#### **Section 5.1: US Nuclear Force Structure**

**T**HROUGHOUT THE COLD WAR YEARS, STRUCTURING THE US AND Soviet nuclear arsenals became an integral part of the competition between the United States and the Soviet Union. Most of the policy experts we spoke with considered the processes and mechanisms used to size US forces in the Cold War years as no longer suitable for determining US nuclear force requirements in the current security environment. While they expressed a variety of perspectives about how US forces should be sized today, we found widespread agreement that the number of nuclear weapons is no longer of the same importance and sensitivity it was during the Cold War. Some referred to it as a "numbers game" in which they were hesitant to participate. When we asked respondents what minimum level of US nuclear weapons they would support, most acknowledged that they had little if any empirical or analytical basis for advocating any specific number of warheads. Others noted that arcane counting rules established during Cold War arms control processes badly misrepresented actual levels, because so many warheads were not included in numerical protocols. Some were dissatisfied with traditional objectives of reducing US and Soviet/Russian arsenals in small

incremental steps, and advocated determining US requirements and moving unilaterally to those levels, regardless of others' postures.<sup>1</sup> No one we interviewed argued for mirroring Russian nuclear force levels, but most considered Russian actions to have consequences for US sizing requirements. Overall, there was a consensus among the experts we interviewed that the current size of the US nuclear arsenal can be reduced safely, but opinions varied considerably about what the lower boundary should be.

We divide participants' views about nuclear force structure into four categories: (a) comments about previous methods for sizing US nuclear forces; (b) perspectives about the declining relevance of numerical force levels; (c) arguments about whether lower is better, and why going too low may be dangerous; and (d) thoughts about how to size and shape the US nuclear arsenal for the future.

## **Previous Basis for Numbers**

Several participants criticized the sizing processes during the Cold War in which the basis for how many nuclear weapons were needed was a fungible figure whose logic resembled that of the chicken and egg conundrum. Did strategic targeting drive numbers of warheads, or did numbers of warheads drive strategic targeting? Did political relationships and arms control arrangements determine the sizes of the opposing arsenals? Was it a limitation of resources? Was it a matter of public and political perceptions? Some commented on the adaptive processes through which each side rationalized target sets, stockpile balances, and deterrence requirements based on worst case assumptions about the opposing side, the objective of gaining relative advantage, and the artificial limits of what could politically be negotiated. Many respondents felt that whatever combinations of rational processes for determining numbers of nuclear warheads may have existed, they became overwhelmed by the pressures of competition with the Soviet Union and the evolution of complex nuclear strategies.

- The Joint Strategic Target Planning Staff developed lists that began with fifty thousand targets and eventually shrank to something over twelve thousand. No outside agency tracked that process to give it a sanity check, to reconcile it with what policy makers intended. And yet that process drove war-

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<sup>1</sup> Views about the value of traditional arms control approaches for sizing arsenals versus unilateral sizing actions are contrasted in Chapter Four.



head requirements, which drove the labs. Curiously, it had only a secondary impact on [military] service decisions with respect to delivery system requirements. Those decisions were uniquely in the hands of the services, who simply used the total warhead requirement to justify their acquisition of whatever delivery systems they wanted, and in whatever numbers they wanted.

- By the 1980s and 1990s, people were appalled at the size of the SIOP, its redundancy, and how far down in target significance it went. This simply underscored the fact not that deterrence didn't exist, but that it had gotten out of hand due to the tremendous number of weapons that existed, and people wanted to do something with them. If they had not had as many weapons or as many delivery systems, they would have had much less elaborate deterrence schemes. I know that when we had a very small number of weapons in the early years, they were a very effective deterrent.

- The numbers are very artificial, because in the strategic arms negotiations we've agreed essentially to limit that which we can verify, so a lot of things get left out of the equation, such as nuclear warheads and missiles that aren't deployed. In the case of the US, that's a substantial number that never enters into the equation, because nobody knows how to verify that by national technical means. We kid ourselves when we say that we've agreed to four thousand deployed [strategic weapons]; we've agreed actually to the deployment of so many missiles and so many airplanes which equate to four thousand [nuclear] weapons because of some counting rules, and which is nowhere near the total stockpile of weapons, because there are a lot of things that aren't deployed on missiles and bombers at any given point in time. So the precision of these numerical treaties is a sham, and we should get away from that.

- If we believe we have more than is really required for deterrence, which I do, then the real issue is what work needs to be done to march down a path of continuous reductions. And our view of how much is enough will always be reduced as we get to each level. For example, [in the mid-1980s we] were targeting fourteen thousand weapons.... We worked hard to get a re-examination that reduced the requirement to sixty-five hundred, and then we were completely comfortable with sixty-five hundred. Once we got used to sixty-five hundred, we became comfortable with thirty-five hundred. Once we got used to thirty-five hundred, we'll be comfortable with twenty-five hundred, etc.

## Decreasing Relevance of Numbers

One frequently heard assessment was that the question of how many nuclear weapons is enough is no longer as salient as it was during the Cold War. To many of our experts, the question of, "How low can we go?" has become a numbers game driven more by political objectives and ideological arguments than by solid rationale. Several participants were reluctant to even discuss minimum numbers, indicating that the question is not of great relevance today, and most readily admitted that they had little solid evidence on which to base judgments about force size requirements.

- What matters to me now is not so much the number of weapons, but rather the policies and postures that prescribe their potential use. Our policy is not much changed from the early Reagan years—massive retaliation, with some additional nuances for "rogues." The focus on cutting numbers misses the principal goal of reducing nuclear dangers. It takes the emphasis off of changing the policy that drives the numbers. This question of what should drive targeting and numbers of weapons—and therefore numbers and types of delivery platforms—is fundamental. What should be our policy with regard to the employment of a single nuclear weapon, much less thousands? Why do we have such a large and arbitrary number of weapons? Why are arms control reduction goals measured in large, round numbers divisible by five hundred? [It's] because all numbers above zero are arbitrary. And numbers beyond single digits are nonsensical, given their destructiveness and global consequences.
- The five hundred to one thousand [nuclear weapons] range is sufficient; if that can't do it for you, then I don't think anything will. ... Realistically, nuclear weapons are going to be a part of American defense forces for the foreseeable future, and thus it seems that you should also try and de-emphasize their importance and their role in overall things. If you must have them, try and keep them few in number and maybe out of sight and at a low level of alert, and you can still say most of the things you want to say about them if you believe them to play these roles in your security policy. But, in terms of provoking others to keep up with you or to want them, lower is better, and out of the picture, out of the forefront [is preferable].
- As a military matter, I don't think it is a serious threat to the US or its allies that the Russians, in current circumstances, have more tactical warheads than we do. I just can't imagine a scenario in which that kind of numerical disparity is going to make a big difference to us.

- We should no longer be in a game of war fighting strategy, which requires thousands of nuclear weapons, and there can be much more thinking about simply how many we need so that Russia would never think about doing this. Not only do I think that would continue to serve deterrence posture, but it would be a lot cheaper. It would allow you to bring down the Russian arsenal.... [Our organization] supports deep reductions of nuclear weapons. We don't spend a lot of time in the numbers game, because we just don't see that it's worth the effort. Go as low you can go without sacrificing the stabilizing situation. I think that's pretty low.
- Nuclear weapons are not useful as an element of war. We can maintain a solid deterrence with—just picking a number—a thousand. If the Russians have two thousand or five thousand, it does not concern me. Those measurements made sense when you were counting German ships and French ships and British ships between the world wars, or before World War I. ... But when you are talking about nuclear weapons, it's a totally different threshold, and the numbers have been totally irrelevant, notwithstanding the fact that both the US and Soviet Union/Russia lived by those numbers and still live by those numbers.
- We are already starting to talk about going down to two thousand [strategic nuclear weapons], and we'll start at three thousand. I don't have any big problem with that, and I would unilaterally go to START II limits, no matter what the Russians do, because I don't think it matters. It doesn't matter that we're down a bit below where they might be. When you start to talk about going to fifteen hundred or a thousand, then I want the Russians to come along with us and make sure no one else is going to go above that kind of parity with the Russians—still around a thousand—and it's more than enough to deal with the kinds of threats that we're likely to be confronted with.
- Don't push me to say whether the right number is five hundred weapons, a thousand weapons, or two thousand weapons, the number does not matter terribly as long as we can assure that they're deliverable and survivable. ... Whether we have twenty-five hundred deliverable warheads, or two thousand, or fifteen hundred, or a thousand, these are just accounting details from all perspectives *for everyone except those who work in the nuclear infrastructure itself.*
- My sense is that numbers are far less important than the process. Frankly, whether it's ten thousand, six thousand, or three thousand [strategic nuclear weapons], people have become focused on the symbolism of what the numbers mean. The symbolism really has to do with the arms control process, and the arms control process really doesn't fit the new world. ... I find the numbers to be less and less important, except for those people who were in the formal, old fashioned arms control process that required a treaty.

## Numbers Still Matter

But to some participants, the numbers issue remains important. We divide the following comments into those advocating lower numbers and those expressing reservations about going too low.

### *Lower is Better*

- The most important task in the nuclear realm...is much deeper reductions in nuclear weapons. We need much less emphasis on nuclear weapons—having them and figuring out how they react, how they're part of the American military and security policy. We still have nuclear weapons as a major element of our military forces, but we should be going down to much lower numbers, maybe a few hundred. I believe in some nuclear weapons as a deterrent, but nothing like we have now.
- How many of these things do we really need, and for what purpose? And what kind of state of readiness must we have? The real answer, if people think about it, is that we don't need any of them at all, and they don't need to be anywhere near immediately available as long as we're pretty sure everybody's following the same rules.
- With the Russians, we could go down to a couple hundred without any trouble if it was just the US and Russia. We're not their enemy. If they become our enemy, we can build back up.
- You don't even have to think about it until you get down to numbers like a thousand. It's a freebie down to that level, then you can argue about how much lower and bring the other countries in. ... I don't think a thousand is the right number, but one should be getting down to a thousand without even thinking, so we could get serious about getting down to hundreds. I think hundreds is going to be the number.
- Whatever the likelihood of deliberate attack was during that period of time [the Cold War], that form of threat has clearly diminished, and therefore we can achieve higher standards of operational safety without any meaningful reduction in the deterrent effect, with much, much lower force levels that are basically taken off alert.
- What you're going to have to aim for is the lowest possible level of weapons that maintains a stable relationship with other powers that can threaten us

with nuclear weapons. I personally believe you can take the numbers down substantially and still have a strong and credible deterrent, but you want to make sure that no country ever really thinks about using nuclear weapons against the United States or our vital interests in any manner.

- The [next] thing to do is to reduce the number of nuclear weapons, particularly the ones that are tougher to maintain in the long-term. We can get rid of some nuclear weapons and ask Russia to do the same. [President] Bush did this very effectively with tactical weapons.... We don't have to wait for Russia. They've reduced without having an elaborate, negotiated verification arrangement. Russia is not threatening us, but even if there ever was a crisis, we could certainly build up faster than they could. We have a much more robust infrastructure to recreate nuclear weapons.
- We could clearly go down to START I levels and clearly go down to START II levels. The level that has been talked about for START III is two thousand to twenty-five hundred [strategic nuclear weapons]. The Russians consistently tell me a thousand to fifteen hundred is what they're looking at, and that the two thousand to twenty-five hundred level is unacceptable to them. And my guess is that the US can live with a thousand or fifteen hundred, properly structured, with the right declaratory policy.
- If you cut the number way back and have only a small number of operationally deployed nuclear weapons, it would serve the purpose of defense, assuming that you have other warheads that you can get out of storage and make operationally ready. Surely, as a first step, we can go down to what we assume the Russians are able to send at us, and that's why most of us today are asking for a thousand warheads on both sides, Russia and the United States.

### ***Cautions About Going Too Low***

- Is stability higher at a higher force level, or is it higher at a lower force level? It depends on so many other factors that no one can give you an honest answer to that. Is it safer because presumably the chances for accidents are higher at higher force levels? Well, it depends on everything else you do at the higher force levels. I can see how the safety of the stockpile could go down at lower force levels if you don't pay an enormous amount of attention to safeguarding those lower numbers. So even going down to lower numbers isn't the equivalent to increasing the safety of the forces. ... And my guess is that you haven't saved money because of all the other things that you have to do at the lower force levels. Given the costs of bringing the force levels down, and the cost of paying for the Russians to bring their force levels down, I

doubt that there is a financial savings. Nobody knows, even in a general sense, whether there's a security advantage.

- There has been an inclination in recent years to see how quickly we could reduce our inventory of strategic weapons. In the first place, as far as nuclear weapons are concerned, it's not clear that we really know what the former Soviet Union is doing. Our intelligence is somewhat limited, but, more importantly, the US, if it's going to continue with this role of being the chief constable of the world, has got to make sure that it has a sufficient nuclear capability to deter a whole range of possibilities. You should start by asking how large a capability do we need under various conditions? Instead, the recent inclination has been to say whatever level we now have, let's see if we can reduce it further. That would seem to me to be questionable under any circumstances, but particularly under the circumstances in which we strut around as the chief constable of the universe.

- Two to three thousand [strategic nuclear weapons] is as low as I would go, and we're talking about that in START II and III now anyway, unless we get into special applications, and I don't see that right now. If it's just strategic deterrence, which is the primary role for the nukes now, and for backup to a theater if you want to deter against NBC types, then we can get along with two to three thousand, something in that ball park. But they've got to have high credibility, high reliability, and so forth, and they've got to be very deliverable and clearly credible as such to everyone.

- I wouldn't want to go very much lower than now. It might be that you could; I just think that the risks of doing that would far outweigh the benefits. If you ended up in a situation that you actually have to absorb a nuclear attack against our nuclear forces and took the numbers down as a result of that attack to levels that then causes one of the other nuclear competitors to feel emboldened to take action, then the risks are too high, and I'm not sure what the benefits are. ...I don't think the benefits are there. If they are, they're very small, and the risks are very high, so I wouldn't reduce the numbers.

- If you take two to three thousand [strategic nuclear weapons] as the actual number you need to have to be able to credibly and flexibly threaten, and if you're going to take first strike calculations into account, it's not difficult for me to see how you could easily get to four to six thousand weapons as a minimum number for the US.

- It [the numbers debate] is a game. To me, it's even worse than a game, because it's hard to convince me that smaller is better. Nuclear weapons are expensive, but they're not that big a part of our military expenditures. I'm con-

vinced that at some level, as nuclear arsenals are reduced, you reach a point of instability. In other words, fewer weapons on each side eventually becomes unstable. I don't know just exactly where that level is, but I'd just as soon not try to find out. So I'm more comfortable with a few more, because a few more doesn't really cost much in any terms. They don't mean there's a greater likelihood that one will go off or anything else, so I'd get off the numbers game.

- A lot of commentators have said that at some point if you go from two thousand [strategic nuclear weapons] to zero, you pass a point of real danger when the incentives for breakout are great; the potential to build new weapons becomes more important. There's a big asymmetry between us and the Russians, because they kept their production establishment, and we've largely—not entirely, but largely—eliminated ours. And then, even beyond that, if you're thinking a five-year time frame, there are asymmetries in the stockpile of fissionable materials that are lying around, so as you get to very low levels, those asymmetries become more important and very, very difficult to control and verify.
- When you start talking about a thousand warheads, I get a little concerned. ... As forces get smaller and smaller, sooner or later it starts to become interesting as to whether the force can be preempted. It's a paradox. The bigger the forces are, the crazier it is to even think of counterforce operations against them. ... To apply my principles, I want to have a very robust and secure deterrent and a little left over for holding at risk minor states with nuclear forces. What does that play out to? Does three thousand sound sufficient? Below two thousand, I might get nervous.
- Our nuclear force posture should no longer be obliged to be more or less a mirror-image of whatever the Russians can afford. I don't know whether six thousand nuclear weapons is the right number of strategic forces, or whether it's five thousand, or something else, but I'm pretty sure that it isn't in our interests for it to be the same number that the Russians find that they can scratch together the money to maintain.
- Until and unless there is a decision to de-link nuclear weapons from our nuclear deterrence and actual plans to wage nuclear operations, it's very difficult to see that there will ever be a credible basis for moving reductions beyond four figures. ... After the Cold War, we've gone from an absolute minimum of six thousand [strategic nuclear weapons] to an absolute bottom of forty-seven hundred, to we couldn't go lower than thirty-five hundred, to discussion of twenty-five hundred. The underlying questions about where, when, and which, have got to be extremely under-discussed. This is a reflection of the perverse division between political people who don't want to hear about it, who think it will

never be tested, so it doesn't much matter, and the planning community which has a lot of stakes in having people much more involved in it.

- I look with some trepidation on the present proclivity that whatever the present number is, reduce it. Before we engage in further reductions, we should have a serious effort to discover what the range of circumstances might be that we would have to face in the longer run with more nuclear powers than we have today, and what number of weapons we would need to deal with these more complicated conditions. ...there's been a strategy of avoiding cities and of going after either economic or military targets as a way of continuing deterrence against attacks on our own cities into the intrawar period. If that strategy is valid, reducing the number of weapons to the point that we can basically only have a countervalue attack capability would be not only strategically unwise, but it would be grossly imprudent on our part.

## **Structuring the Arsenal for the Future**

### ***Sizing Considerations***

Following are general observations and recommendations about how to size US nuclear forces for the future.

- I propose that we ask several very basic questions. First, do we envision any antagonistic relationship with any state that possesses nuclear weapons on the magnitude and scale that we possess nuclear weapons? The answer to that question is no. Second, what is the minimum number of nuclear weapons that we need to have in order to feel comfortable about our ability to deter anyone from doing something really stupid? The answer to the second question is probably five hundred or a thousand weapons. ... We get caught in the trap of thinking that we need a couple of thousand nuclear warheads, but that number is far beyond what we need. By keeping the numbers lower, we can credibly say to the international community that we don't think nuclear weapons are very important, and that we're going to keep some only because we think it's essential that we do so as one of the main forces for peace and stability in the international community. But we should cut the numbers heavily. ... We should keep only enough weapons to deter the rogue states, and yet establish a new political discourse with other states in order to move nuclear weapons away from the table.
- The test that I have always thought was the one to apply when one talked about numbers, and in particular about characteristics of nuclear weapons, is a



simple one. Is any political leader of significance in any country going to behave differently in a crisis depending upon whether the United States has “X” numbers of nuclear weapons or ten times that or a hundred times that? If “X” is a number as large as ten, I’d say the answer is almost certainly no. Ten weapons would, in my view, seem likely to cause the folks in the Kremlin, or Beijing, or in Washington to behave the same way as would a hundred or a thousand. If so, there’s not much case for getting a thousand.

- Like so many other security issues, the minimum size of our nuclear arsenal should be thought through from first principles, not from implicit Cold War assumptions. It might be that lowering the numbers in our stockpile and the Russian stockpile to the level of the next highest country, which I suppose is China, might be a candidate principle. ...but certainly lowering the stockpiles to the point where the number of weapons held by other countries becomes important sounds to me like a sensible direction in which to proceed, and certainly one of the major factors to take into account, once we get down to those levels. ... We’re certainly in an environment where numbers don’t matter militarily; they only matter in terms of domestic and international politics, and in terms of shaping the future, shaping what other countries think about nuclear weapons.
- It’s important to realize that the political relationship drives the reductions; the reductions don’t drive the political relationship. We’re not going to get down to these low numbers unless the political relationship will bear it. Fifteen hundred, maybe twelve hundred [strategic nuclear weapons], is about the limit of this current political relationship. National missile defense is going to disallow further cuts because of our confrontational relationships.
- There are a lot of people who say, in a gut sense, the smaller the number [of nuclear weapons], the better. But the counter argument is that in getting down to small numbers, you’ll have to go to countervalue targeting, and that’s immoral. ... Before you can talk about whether numbers are adequate, you have to talk about the doctrine. What are we going to use them for? Are we going to use them to deter the use of chemical and biological weapons? Are we going to try to use them for surgical strikes? So the numbers game is complicated by doctrine.
- There is an argument that we ought to have a unified number of nuclear weapons—say four thousand—that would involve the total arsenals of both sides. I find that unsellable; it’s just an intellectual argument. From the Russian point of view, it’s very unattractive. At this time, Russia thinks that it needs tactical nuclear weapons for the kinds of threats it’s likely to face in the near-term and mid-term future. They don’t believe the US is going to attack them, so they don’t need seven thousand or more strategic weapons; they’re perfectly comfortable coming down to fifteen hundred as long as we do, or maybe even if we

don't. They actually think that tactical nukes represent a deterrent to their neighbors, from China all the way through Iran and an expanded NATO, including the Baltic [states]. They see tactical nuclear weapons as their only recourse.

- I share the view of most people in uniform in the United States, which is that I want to minimize the dollars spent on central strategic systems, because I don't see much threat there, and we can accomplish our national objectives with a substantially smaller force than we have today. However, I would like to see a negotiated drawdown with Moscow. In a resource constrained world, I'm not looking for opportunities to spend more money there.

- We [our organization] looked at numbers and targets again, and we felt pretty sure that five hundred survivable, deliverable, penetrable re-entry vehicles would be plenty. Getting to five hundred survivable, deliverable, penetrable RVs depends on your posture, but a total inventory of fifteen hundred to two thousand warheads should make it pretty easy to achieve the five hundred survivable. Something like that seems to us to be reasonable in the period of the future we can foresee.

- We should move to START III levels, which takes us down to roughly two thousand warheads each. I would continue moving down to fifteen hundred and probably to a thousand. That would be my goal, to get down to a thousand for both of us, and then make sure that nobody else, such as the Chinese, might be building up. If there's a danger of the Chinese going over a thousand, then we need to bring them into the process. I think a thousand warheads would be sufficient in terms of an aggregate size of our strategic nuclear capabilities.

- I don't think parity is necessary, but we don't want to give them [Russia] an enormous advantage, because it changes their motivations. For example, five hundred single warhead or four hundred single warhead ICBMs guarantee against any kind of a surprise attack—unless the attacker has several thousand warheads. If the adversary only has something about like what we have, then single warhead ICBMs are a completely effective deterrent to a surprise attack, because the adversary knows it takes a massive attack, and they would have to use too much of their force to hope to do anything effective to that part of our force. So there are some parity issues, but, by and large, in terms of total numbers, it's not necessary to have exactly matching quantities.

- I don't know how many [nuclear weapons] we should have. You give the targeteer a set of weapons, and he'll find a set of targets. And if you give him a map, he'll find a number of targets and start demanding that number of weapons. This is the nature of the beast. If anybody has an algorithm for deterrence, I'd like to see it. ... I almost refuse to get into the numbers business,

because you can't. You just don't know what the right number is, because if I tell you it's ten thousand, then you find ten thousand sets of things to do, and if I tell you it's eight, you find eight, and so on and so forth. And you have this issue which is really the most interesting thing about the future—the mixing of the long-range precision conventional capabilities and the nuclear capabilities. It's when you start mixing those two kinds of capabilities that you get a more logical driver to change the nuclear structure.

- Two hundred [strategic nuclear weapons] is too low; fifteen hundred is probably too big. A thousand is a nice number. But why should that be true? It represents some intuition about what looks like a big and impressive number to a whole host of challengers; some sense of having a comfortable number that gives you some resilience against the possibility that somebody figures out how to make ballistic missile defense work, or that there's an intelligence breakthrough that makes some piece of the force vulnerable. And it's a number that, to the  $n^{\text{th}}$  country that has decided to go nuclear, presents barriers to entry. ... I want to have a force that presents barriers to entry so that people know that even if they have nuclear weapons, they're not in the same league with the US.

### ***Other Force Structure Considerations***

Some respondents were concerned that the US may need to tailor nuclear weapons capabilities to meet new and changing threats for which existing weapons may not be well suited. The following comments relate to concerns about the composition of the future force structure.

- High yield weapons designed to destroy hardened targets with air bursts may not be what we want in the next couple of decades. That doesn't mean that in the retaliatory mode they wouldn't be used, but sole reliance on them may open some gaps on the escalatory side which convince people that they might get away with escalation in the absence of weapons characteristics that make it more plausible that we could use them in lower yield variants, or earlier in the conflict. ... There's a real problem there if you write off all of the lower order capabilities, and you leave yourself only with something that goes bang at the end and brings the whole country down. I would think that over time you'd get this raising of the bar, beneath which all of the kinds of behavior that you used to think you could deter may occur.

- I would recommend designing some new nuclear weapons to be able to deal with emerging problems. I would look into very small weapons; very precise

weapons; selectable effects; maybe some neutron kinds of effects; maybe some electromagnetic pulse kinds of effects....

- We still should be putting small but nontrivial amounts of money into research into tailored effects for nuclear weapons. These include things such as nuclear pumped x-ray lasers and nuclear pumped gamma-ray lasers.
- We need to think about more discriminate packages. For example, if we confronted a situation in which North Korea launched a massive biological attack, and we decided to respond with a nuclear weapon, we wouldn't want our only options to be multiple warhead missiles or very high yield single warheads. We're not going to want to fly in a bomber. You have got to think of smaller packages—single warheads and lower yields, frankly. But we're not going there. We have no plans to develop any new nuclear weapons, and we have no plans to test any new nuclear weapons. ... If I had to make the decision, I don't think I would start production of a new nuclear weapon for that purpose. But I would certainly look at ways of being able to use what we have, particularly at the lower end of the yield spectrum, in more discriminating ways, whether it's refitting some missiles to have one warhead and multiple dummies, or whatever.
- We need lower yield, earth penetrating weapons mounted on responsive, quick flying delivery systems. You can deal with the launch target time line, which needs to be compressed as much as possible, any number of ways. You can move the launcher closer to the target; you can make the far away launcher deliver a weapon that goes a lot faster. There are a lot of ways to do it. The problem we face today is that North Korea or some other small nuclear power can roll a missile out of an underground bunker that is capable of putting a warhead in the United States and fire it before we can attack it. It's really that simple.
- For the most part, I would get rid of [tactical nuclear weapons]. That is the way we've been moving. I really don't see the US using short-range systems on the battlefield. ... Most of the short-range tactical stuff or theater stuff that we had didn't make a whole lot of sense. I would continue to move toward eliminating it just like we did at the end of the Cold War with the Soviets in the INF agreement. There are whole classes of these kinds of weapons that we can eliminate....
- With regard to battlefield nuclear weapons, with the exception of deep-penetrating, low collateral damage nuclear weapons, I don't see too much need for them.
- We should have theater weapons in our arsenal that could be redeployed. I wouldn't destroy them all. Having SLCMs in reserve is a good idea, for example, for some future day when we might need them. While I hope that day doesn't come, we at least have the capability as a hedge. But the toughest nut

to crack is this question of lower yield and more tailored force packages. ... It's strange, but we seem to be coming full circle in the sense that the kinds of use that we'll actually be confronted with in the future are the Hiroshima and Nagasaki types of choices. Do we want to use one nuclear weapon to fundamentally change the direction of this particular situation as opposed to do we want to launch thousands of warheads?

- We should have been moving even beyond the de-MIRVing theme which is a very important legacy of the Bush/Baker negotiations. Bush and Yeltsin really did come to something that was quite significant there, and we are in some danger of losing that advantage if we have this process fall apart or grow so dilapidated that the Russians end up feeling they've got to hold onto the land-based MIRV capability. No one can think that's a real contribution to at least the classical models of stability. If we ended up with them holding most of their inventory in a fixed site MIRV capability of the SS-18 model for an indefinite period, vulnerable not only to our land-based precision forces, but, at this stage, to our sea-based precision ballistic missile capabilities, that's a recipe for very nervous moments.
- You always start from a base of what you know when dealing with a new situation, but we've had this new situation emerging for almost ten years now. Our language should be changing, and our thought patterns should be evolving, and I'm just not seeing enough of that. ... Part of the problem, by the way, is the political environment in which they [nuclear planners] operate, and in which they're not allowed to operate. It's politically incorrect to think about nuclear weapons, to talk about new weapons, new ways, and new concepts, so you get this enforced time warp. We're still spending quite a bit of money on it though, so we've got to get over that and figure out how to do it better, how to do it smarter.

## Section 5.2: US Nuclear Force Posture

**B**ASING AND ALERT LEVELS ARE TWO FORCE POSTURE QUESTIONS important to the evolution of US nuclear capabilities, so we asked our participants to discuss options for each. First, we asked them whether the Cold War triad concept of structuring US nuclear forces for land-based ICBMs, bomber aircraft, and SLBMs was still important. And if the triad is revised, we asked them which leg or legs should have priority. Second, we asked participants to comment on the concept of de-alerting, which refers to methods and processes designed to lengthen the reaction time between a decision to launch nuclear weapons and their actual employment. Following are comments relating to the triad and de-alerting issues.

## The Triad

The triad concept evolved during the Cold War as a method for ensuring that all nuclear forces could not be destroyed in a preemptive strike, and to reduce the possibility that a defensive technological breakthrough could ever neutralize all US nuclear forces. Also, the triad greatly complicated an adversary's defensive planning. Other variables were involved, including technological developments such as nuclear propulsion and missile accuracy and range, and bureaucratic considerations such as relationships among branches of the military. In the post-Cold War security environment, some analysts are questioning whether all three legs of the triad continue to be necessary. For example, if there are deep numerical reductions in the US nuclear arsenal, they ask whether the resulting smaller force should continue to be based in all three different delivery modes of today's triad. To better understand this issue, we asked participants to discuss the rationale for the triad and to prioritize the three component delivery modes. Following are selected relevant commentaries organized into arguments for maintaining the triad, perspectives about why it may no longer be necessary, and discussions about how it might be modified.

### *Continuing Viability of the Triad*

- The triad is essential. If someone asked me what's the minimum size nuclear force at which you'd have the triad, I would say the French were a wonderful example. The French had one squadron of bombers, eighteen ICBMs, and two nuclear submarines, and they had a wonderful force. It was very effective, very efficient, and had a hell of an influence on the Soviets. Now, why do I say this? It's because the leg of the triad that is of increasing value is the single warhead ICBM. Above all others, that's the one of increasing value, because as long as we have some significant number of single warhead ICBMs in silos, no one can pull off a cheap attack. ... It changes the correlation of forces in our favor if they attack our single warhead ICBMs, because they have to attack with a ratio of more than one-to-one. ... So I now find single warhead ICBMs to be enormously stabilizing, because no one can conduct a cheap attack as long as we have them.
- We should keep in good, well-oiled, functioning condition, a nontrivial number of all the old systems of the triad. ... We should invest in research and development activities for all sorts of things. It's always good to be thinking about what else you might do, but my instinct is to just go down to a

smaller number of active bombers, ICBMs, and SLBMs in good working condition. ... I would put most emphasis on research and experimentation.

- It [the triad] can be shrunk considerably. You may want to keep some pieces of the triad in all cases, such as aircraft delivered weapons for the theater wars where you have to deter, but you're talking about very few there; you're talking about a real small dual capable NATO force. But the rest of the triad could be reduced substantially in size, as they are doing.

- I personally am a fan of the triad. I am a fan of the idea of an adversary not being able to target us in such a way that takes out our capability. No matter how they slice it, launching one type of attack will alert some of our forces to be able to escape that attack. If someone could build a force that does that without the triad, I'd buy it, but I haven't seen it yet. I'm not a particularly big fan of land-based missiles, but that synergistic effect is invaluable, and unless you can replicate that for me in some other way, then I'd rather keep some semblance of the triad, but smaller scale.

- It [the triad] provides a valuable hedge, particularly if we're going to have a situation which we are slipping into where there's little or no modernization, either of the delivery systems or the warheads. ... Essentially, we have three delivery systems; that's what the triad is, and we have two warheads for each of the three delivery systems. That's a reasonable hedge against some unexpected failure. ... I wouldn't be eager to take the stockpile below three thousand to twenty-five hundred [strategic nuclear] weapons, and so I don't think you face an acute issue about the triad, but you do if you start to go lower than that. And I would just as soon not go to that point, but the most important aspect of the triad is the hedge against some unexpected failure of one leg or the other. And having two warheads for each of the legs also is a useful hedge.

- If we don't have those ICBMs in the ground, an attacker could take out three bomber bases, two submarine support bases, and three storage sites, and we would be out of business for an extended period. We would not be able to regenerate. So that's why I say it makes us extremely vulnerable if we de-alert those ICBMs. So the ICBM leg is vital. The SLBM leg—obviously, that's our survivable force in crises. The bomber leg? It doesn't cost us much to maintain. The incremental cost of maintaining nuclear capability on bombers is trivial, so why would we give up the bomber leg of the triad? We're going to have bombers anyway. In fact, if you insist on a dyad, I would give up the bombers; I wouldn't give up the ICBMs. Why would I do that? Because in giving up nuclear armed bombers, we're not really forfeiting potential capabilities. We know we can agree not to routinely put warheads on those bombers, but we can always recover that capability if future security conditions warrant it.

- The most important characteristic of our military forces, including the nuclear forces, is the ability to tailor our responses to the situation that we find ourselves in. Having a considerable degree of adaptability and flexibility in nuclear forces is worth paying for. I would keep some mix of manned aircraft, cruise missiles, SLBMs, and ICBMs.

### ***The Triad Is No Longer Needed***

- The driving motive of the services to maintain each leg of the triad has gone away, and so now we can think about and talk about it the way a military planner might.
- I'm not sure it [the triad concept] ever was [valid] except politically, and, politically, it may still be. A small number of nuclear weapons is preferable. I don't think the Chinese or the North Koreans care whether a nuclear weapon hits them from land, sea, or air. I never thought that our nuclear weapons were vulnerable to these carefully pinpointed attacks. ... I don't think the triad was valid. Having them at sea probably made the most sense, because they were the most survivable.
- It [the triad] is not sacrosanct. It was useful when you were facing a deadly enemy who had the ability to wipe out one part of the triad, or perhaps make it very difficult for you to have a second strike capability with just one leg. If you have the three legs, it's much better. In my view, the submarines would have been enough, because they were, at least in those days, almost impossible to hit, and you could have used them for a second strike.
- We can radically reduce the size of the arsenal and get rid of the bombers, which we can use for a number of conventional missions if that is required. We can accomplish all that we want with submarines and some land-based missiles and cruise missiles as well.
- In the past, I have advocated going to a completely sea-based nuclear weapons force structure. ...it just seems to me that we could afford to give up land-based systems and just keep the sea-based systems, because they're a much more secure environment. You don't give the opponent the geographical coordinates of the weapons.
- I'd de-emphasize either the ICBM or bomber leg if necessary. I suspect we could do without the ICBM leg, and I would keep a small bomber leg and emphasize SLBMs. But I wouldn't want to go down to solely SLBMs, just in case submarines become vulnerable to new ways to detect them under water through reconnaissance satellites or something like that. ...I'd keep two legs, because if we gave up our ICBMs, they would be easier to reconstitute than SLBMs if we



had to do that in ten or fifteen years. So the path would be a gradual, continuing, build-down (as long as others are coming along with us) to fifteen hundred or a thousand [strategic nuclear weapons], as we spread reductions disproportionately across ICBMs and bombers and maintaining SLBMs.

- I'd get rid of the nuclear capable bombers altogether, because you can use cruise missiles for air delivery, whether launched from submarines or surface ships or whatever. ... My basic nuclear deterrent posture would be principally based on the submarines. The SLBM force has enormously high survivability. I'm of mixed emotions regarding the land-based forces. For cost reasons and for reasons of operational efficiency, the long-term force structure should be equally based on SLBMs, a land-based component, and a cruise missile-based air component. That would be a very robust architecture.

- First, I'd maintain the submarine-based force, above all. I think I'd agree to dispense with the bomber force. ... I might agree under certain circumstances that that was a more cost effective way to maintain the appropriate size of the force, not to try to split it three ways, but only split it two [ways]. And I would keep two [legs], because there's always the potential technological breakthrough, and suddenly they can locate every submarine in the ocean or destroy every land-based missile. So I would maintain two [legs] at this point.

- We should retain something like our current strategic—that is, intercontinental—offensive strike capability, although I don't think we need to have a triad. It is possible to use B-1s and B-2s [bombers] for non-nuclear missions, and that is a much better use of their capabilities. There are a number of contingencies in which highly accurate, single-warhead ICBMs may be of use, and therefore we should retain the MXs and the Minuteman IIIs, with upgrades to their accuracy. One thing I haven't come to any conclusion about is whether or not we should be converting SSBNs to other options. There are plausible arguments for converting them to cruise missile carriers. On the other hand, there may be better ways to deliver cruise missiles at long ranges. Still, SSBNs have the virtue of being located off American soil, and of being redeployable.

- The triad concept is to make sure that the weapons get delivered, and right now you could do that with submarines; that's pretty good assurance at the moment. There was a reason to have the rockets in the field for awhile, and there have always been reasons for bombers. ... I don't mind relying on a submarine so much. It's a very powerful tool; it's stealthy; it's long-range; it delivers very good weapons, and you can have them delivered one at a time or ten at a time—whatever way you feel like. And my sense of the technological trends is that submarines are safe for another twenty years. The notion of transparent oceans is still just a notion. You're still only worried about two

folks looking for those subs, and I don't think either one of them is going to make the oceans transparent. The Russians are distracted and doing other things with their time and energy, and the Chinese don't have the capabilities yet. ... If I were going to start a reduction, it would be with land-based missiles.... And the last piece that I'd trade off would be the submarines.

### ***Considerations for Future Basing Options***

- The triad is not something that is the Rosetta Stone of the way things should be. It obviously could be changed; people have proposed for a long time getting rid of land-based missiles and taking away a whole set of targets, and going to sea. Now, you're going up against the Air Force and all of this and that, and roles and missions and budgets and careers and the hard facts of life, so I don't think any one of the three legs is going to be done away with. The long-term plans are to keep one of each leg at lower levels, and I suppose that's what we'll have to live with. In reviewing things, people usually have made proposals to do away with the land-based missiles, but they've never gotten very far, so I guess that's the way it will be.
- I would want to think very hard about having forces composed of single missiles having one warhead—no more MIRVs—and how I would re-alert and plan would have to do with thinking about firing single warheads on single missiles, which has some enormous implications for the cost of keeping sea-based missiles.
- I don't [think we necessarily need a triad]. For example, take the easy case, the case for maintaining a heavy bomber force. It's getting hard to maintain; in fact, it's getting pretty slim, and nobody disagrees about this. I would not be terribly upset, and I don't think that our national interests would be severely threatened, if we decided to go to a dyad. ... I don't think I'm prepared to go beyond that yet until I have a little bit better sense about where things are going in Russia and China. I can imagine circumstances in which we would be perfectly happy, particularly with the submarine-based force, but I don't think we're there yet.
- I don't think it [the triad] is sacrosanct, but there are certainly operational benefits derived from having our strategic nuclear forces spread upon three different legs of the triad in terms of the timing of how you would launch those things, which ones were vulnerable to what kinds of attacks, etc. ... Whatever we do, we need to make sure that we don't end up relying on a single type of delivery system. It doesn't mean that the triad is sacrosanct, there may be variants of that or dimensions of it. Cruise missiles are a perfect example of a variant of the triad that we have deployed, and we need to think about using this very effective sys-

tem in this new role. So it's very important to maintain a robust and varied delivery system and force structure to complicate an adversary's planning.

- I am in favor of a very robust deterrent, and that tends to mean that we should have a deterrent that operates by at least two different principles of protection. You don't want to put all your eggs in a single technology, because someone then could crack it. It's nice to have two different fundamental ways of securing a deterrent, and diversity is a good thing.
- What's really important to me is having multiple ways of achieving survivability and absolute assurance that you can use them. I used to think that it took three delivery modes. Today, I don't have any strong views on whether it takes three or two, but I wouldn't want just one. There should be multiple links to survivability. The SLBMs are my first choice, because they are so survivable. Between the bombers and the ICBMs, I would keep the bombers and drop the ICBMs if I had to drop something, the reason being that the ICBMs are such obvious point targets.
- For the near-term, it [the triad] is fine. Over time it may deserve reconsideration. If you ask, "What do I really want to have in a deterrent force?" it's good reliability, command and control, and some number of weapons that can produce the type of effects I need. Well, I could do all of that on a submarine. So you start with that, and then you build up from there. Over time, we're probably going to end up without a land-based force. ... The politics eventually will drive it to a dyad and then maybe just to submarines.
- For years, I've asked people a rhetorical question: what's the last leg of the triad? The Reagan administration answered that it's the bombers. ... a lot of the post-Cold War missions are ones that you would do with slow flyers; either with SLCMs, if you could have them deployed, or with ALCMs or gravity bombs. Another way to look at the last leg of the triad is at the ICBMs, especially the de-MIRVed ICBMs. They have a lot of advantages...if they're spread out sufficiently, and if they are in tight, secure areas, they're highly stabilizing. But the traditional view has been that the last leg is the sub leg. And the reason has been primarily that those that are at sea are highly survivable. On the other hand, unless we start to do something with it, we are going to be running into some problems. ...the submarines contain an awful lot of warheads that are really designed primarily for salvo launch with very large yields, and the SSBNs have only two operating bases, or even one if you get low enough.
- In a world in which we were deterring the way we were, making doubly sure that there was no doubt that there was a second strike capability made sense. To the degree that continues to be a concern, then we should continue the triad. To the degree that it's not, then maybe we ought to take a fresh look

at it. ... I don't think it's a sacred cow. Let's see where we are vis-à-vis China, and take a look at what our force mix is.

## **De-Alerting**

Advocates of de-alerting argue that the "hair trigger" alert postures of the Cold War are no longer required, and that risks of inadvertent or erroneous launches can be reduced by reducing the alert levels and increasing the reaction times for US and Russian nuclear forces.<sup>2</sup> Opponents argue that de-alerting is unnecessary for safety, and that it would weaken nuclear deterrence. Following are our participants' assessments of the concept of de-alerting organized into three groupings: those in support of de-alerting; those opposed; and those who considered the issue to be open and worthy of further study.

### ***Support for De-Alerting***

Among those that we interviewed, advocates of de-alerting largely based their support on three arguments. First, they maintained that in the post-Cold War security environment, highly responsive alert levels pose unnecessary risks of accidental launches and mistaken launches on false warnings. Second, they suggested that Russian command and control systems are degraded due to inadequate funding and maintenance of warning systems and associated infrastructures. Third, many saw de-alerting as an incremental step in the movement toward decreasing the reliance of both the US and Russia on nuclear weapons, with the long-range goal of minimizing and eventually eliminating nuclear arms. Given the current stagnation in the START and CTBT processes, de-alerting was seen by some as a feasible step that could help reduce nuclear dangers while awaiting further progress in arms control processes. These supportive views are summarized below.

- I don't think it [de-alerting] is a bad idea. The best form of crisis management slows crisis escalation. Anything that gives you more time is probably good, as long as it is roughly symmetric. In principle, it's an important set of ideas, and the fact that it's reversible also is attractive.

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<sup>2</sup> For discussions of de-alerting see Blair, 1995; Committee on International Security and Arms Control, National Academy of Sciences, 1997; Feiveson, 1999; and Carter and Perry, 1999.

- I strongly favor it [de-alerting]. I hate to praise the Chinese, but they have thirty nuclear weapons, and the missiles are not loaded with liquid fuel, and, I believe, the warheads are not mated to the missiles. Yet, they still have an effective deterrent force, and we could do the same. So, yes, I would de-alert, if nothing else to limit the possibility of some accident. You push a button, the missile goes off, and if there's no warhead, it doesn't matter as much. ...I am a subscriber to the position that the US could reduce numbers and de-alert weapons and take all these steps, regardless of what any other country does. [We could do so] unilaterally, because we have such a massive deterrent capacity, and in any case, there's much less to deter. I believe it, but I don't believe it's politically possible.

- I do not believe Russia would deliberately attack [the US], but they might lose control over a programmed attack. In order to remove that threat to the United States, and to establish a much safer operational pattern, we need the Russian force absolutely off alert. That means we need our own force absolutely off alert. This obviously would be a transformation of radical proportions in the whole pattern of nuclear weapons deployment. ... Early on, we should conceive of this entire arrangement, which is truly urgent in the case of Russia, in terms that would allow it to be gracefully and quickly extended to China and anybody else in the game.

- The means [for de-alerting] have to be developed, and it's a fairly complicated matter to do so. It's a combination of technology and procedures and legal understanding. And you'd have to give the joint mission to the US and Russian navies—they're the navies that engage in this sort of thing—to devise a deployment that has this characteristic. We want reliable verification of de-alerting, and we don't want the resulting systems to be vulnerable to preemption. Now, you tell us how to do that, and then they would have to work at the problem. It took quite a long time to work out the technology for the other kind of deployment where we wanted them [nuclear weapons] immediately available and invulnerable to preemption, and they worked out all the technical requirements of that. It took us a couple of decades, actually, to really mature it. This problem is no harder than that; it's probably not as hard. It involves a substantial redesign of the machinery and the operation, which the people who've been in the business are understandably reluctant to do. ...it is overwhelmingly in the interests of the US and everyone else to go through this transformation. And if we figure that out and tell the navies to work it out and give them time and money to do it, they can definitely do it.

- We've got a big problem with the configuration of the Russian forces, which is just unacceptably dangerous, and at the moment we're doing nothing about it—nothing effective. That's a big mistake; that's a big security mistake. So, when I usually talk about it, it's putting first things first. Let's get the

Russian forces off alert and into a safer and more manageable or better accounted configuration, and then let's talk about the larger scheme, and let's also prevent new deployments along the way, too.

- This [de-alerting] just seems to be common sense to me. Some steps have been taken; our bombers no longer sit on ground alert; the submarines are configured slightly differently in their patrols, what they call modified alert. But much, more could be done, and it's Bruce Blair's contention, and I fully agree with him, that by continuing to maintain these alert rates, you're forcing the Russians to keep up in an economic situation where things are decaying and coming apart, with warning systems less secure than they used to be. You're putting everybody at higher risk by keeping these things on high alert and asking for mistakes to happen.
- Basically, it [de-alerting] is a good idea if it's really done bilaterally, and, in fact, the same with all of the other nuclear powers. ... I don't see us getting caught in a situation where we would not have a few weeks advance notice, and we could get back onto more like an alert status. So I think you buy a little bit of security, but we would like to be sure that the Russians do the same. ...it's easiest to do on the aircraft and hardest on the subs. With the ICBMs, we could do fairly well without too big an operation. ...[re-alerting] is something that you probably can deal with. You may want to overtly and openly practice returning to alert status once a year or something. You could tell the Russians that we're going to go through this drill just to be sure that everything is still smooth, but don't worry about it. Let them observe parts of it, and tell them that we'd like to watch theirs too. You could work out something like that.
- De-alerting is so obviously a beneficial thing. ... The last time I looked at this in any detail was on a panel for DoD...but the few people that were thinking about Navy weapons had some interesting ideas for (a) keeping the submarines at sea, but in ways that the SLBMs physically couldn't be fired unless authorized, and (b) for assuring other countries that this was indeed the case. It was not physically de-mating warheads the way that you would with ICBMs. Presumably, we don't have any bombers standing alert; but of course those are easy to load and unload. But procedurally, PAL-like physical constraints on the ability of a submarine commander to fire his weapons is the class of things I'm thinking about. Such a procedure would still retain the survivability benefit of submarine-based missiles, and it would maintain the Navy's interest in sustaining the SLBM force by keeping up the number of commands and keeping up the billets.
- De-alerting came on the rise as it started to become clear that the START process wasn't going anywhere. And even if it did go anywhere, it would take decades to get there, so people began looking for something to do in the in-

terim while START is stalled. ... What can you do in the meantime to reduce the risk of Russian erroneous launch? ... For both sides to keep things on hair-trigger alert while we have concerns about what's going on in Russia in terms of command and control, and the fact that they can't feed their troops, and on and on, is an unsettling situation. ... I would support any de-alerting proposal that increases the launch time. But this is an adjunct to the START process; it's something to do in the meantime.

### ***Opposition to De-Alerting***

Those among our respondents who opposed de-alerting did so primarily based on three criticisms. First, they argued that de-alerting would undermine nuclear deterrence and increase incentives for preemption. Second, they questioned the technical feasibility of implementation schemes and argued that the transparency required for reliable verification would exceed anything previously achieved in arms control. And third, they were concerned about the escalatory implications of re-alerting during crises. Each is illustrated in the following commentaries.

- The reason for having nuclear weapons is not to use them, but to persuade other people that they ought not to take certain courses of action that might persuade us to use nuclear weapons. Anything that weakens the deterrent effect of nuclear weapons, whether it's de-alerting them or reducing the numbers down to quite low levels, seems to me to undermine the basic deterrent effect of nuclear weapons, which is all that really matters with nuclear weapons. These de-alerting and retargeting kinds of issues are purely cosmetic ones, and they ought to be treated as such. I'm very uncomfortable with the notion of any kind of de-alerting measures that would prevent us from using that arsenal when we need to. One can envision all those nightmarish scenarios in which we've de-alerted forces, and then we can't get them back on line for whatever various reasons. That would be a terrible moment of vulnerability for a state.
- De-alerting is nonsense. Every scheme I've seen for de-alerting is destabilizing. That is, it puts our forces at risk; it particularly puts our regeneration capability at risk; and it serves no stabilizing purpose whatsoever. The people who use the Norwegian sounding rocket as an argument know that it is not relevant. They know that the Russians never even imagined that they were going to respond to the Norwegian sounding rocket warning with an attack on the United States. It's just absolute nonsense, and they know it's absolute nonsense, and yet they continually use that example.

- De-alerting is just another step in the same dance. ...it is clear to anybody with half a brain that it is not consistent with maintaining a nuclear deterrent. You talk about putting tons of rocks on a silo, and it'll just take a little while to get them off, but you start getting to the point where what you really want to do is take the weapon out and put it in storage, or take the firing mechanisms off the submarine. At that point, it's pretty clear that you're into denuclearization.
- I stop short of saying de-alert all the forces, simply because I don't know how to do it technically. Obviously I can take warheads off of the ICBMs, but I don't know how to take them off SLBMs. We've taken them off bombers, and I believe that we've de-targeted our ICBMs and SLBMs, but there's no practical technological next step. There are technological options, but there's no practical one—partially political, partially technical—that says we can de-alert all our nuclear forces. So I don't pay attention to that.
- You could de-alert the bombers, and we have; they're totally de-alerted. Suppose you take the warheads off ICBMs. Then you're sitting there with your warheads off, and suppose there's a nervous glitch. Are you going to start putting the warheads on? What's going to be the impact in terms of dynamics of change if you do put a few warheads back on? ... So, physically, you could take them off, but politically it makes little sense. Now, to the submarines. Are you going to tell me that, all of a sudden, my submarines are just going to operate in limited areas so that they can't reach their targets? But all the modern missiles now can reach their targets. So [are you] going to send the submarines out to sea without warheads, and bring them back and put the warheads on if there's a crisis? ... Are you going to have somebody on the submarine with a key that's going to keep the warheads off until the moment comes to bring the sub to the surface, open up all the hatches, and put the warheads on? All those actions have an effect. I'm surprised that so many hard thinking scientific people on this problem have said de-alert, as if it is real. I don't know how to make that a practical thing. The best thing to do is to get rid of land-based MIRVs. If you get rid of land-based MIRVs, de-alerting has little value, because they [single warhead ICBMs] are not worthwhile targets. There's no launch under warning, and no launch under attack. Who the hell is going to waste a couple of warheads to destroy one of yours?
- For those things that you worry about most, which is that the components of a system will find their way into the hands of bad people, the circumstance in which that's least likely to happen is if the weapons are kept on the front end of a missile. But what about accidental launches? Yes, they could occur. I've been through enough of the information to have confidence that it is an unlikely, if not impossible, event. Weighed against disassembling the weapon, or merely putting it some place where it can be walked off with, difficult as though that may be, I'd rather leave it where it is. ...it's a higher risk taking



the warheads off their delivery vehicles than leaving them on—which is not to say there isn't risk, in the Russian case, of leaving them on. It's just that it seems to me that the risk is a lot higher if you take them off.

- I think it [de-alerting] is a charade. It's not verifiable, and you could retarget, put back on alert, in a very short period of time. So it's just a charade. I see little utility there. I don't even think it's very comforting, because it's actually one of those things the American people have figured out. "We're not aiming at your cities anymore; we're taking these ICBMs off alert and everything." How do we know they did that? And so the American people have figured out that it's a sham.

- When you get into naval forces, the specific schemes that people have for de-alerting the naval forces are pretty unrealistic. ... Nobody presented me with a convincing scheme for de-alerting naval forces, unless you just simply don't send the Navy out on patrol. I'm not prepared to do that, because that really tends to undermine the credibility of the deterrent. ... Suppose we actually did that, and then there was some crisis in Asia like the North Koreans about to launch a missile, or the Chinese threatening Taiwan. You certainly wouldn't want to re-alert at that time. So while it can't be dismissed, when you look at proposed de-alerting schemes in detail, they're not as practical as we would like.

- De-alerting is a brain-dead idea. ... We should never put the core of our deterrent on a de-alerted status, for a number of good reasons. First of all, de-alerting is designed to solve problems for which, if you have them, de-alerting isn't the right solution. If your problem is lack of confidence in command and control and fear of "decapitation," you've got to fix those problems, and you can't solve them by de-alerting. In fact, de-alerting makes many of those scenarios appear much worse to the country that feels threatened. The second [concern] is that the deterrent psychology of de-alerting is terribly de-stabilizing. Witness the August 1914 problem involving the danger of competitive re-alerting. I don't think that is easy to manage in this context, because it says if anybody starts to alert, for whatever reasons, it elevates the tension phenomenally in a crisis environment. It is very dangerous. You are likely not to re-alert, but there are cases where you need to show resolve, especially in some cases involving an extended deterrent, such as if you needed to alert your forces to deter a North Korean attack on South Korea. Or how do you deal with chemical and biological threats? De-alerting basically says, "I won't respond, so go ahead and attack." That's a terrible psychology. ... This is a solution looking for a problem. It is a hobbyhorse, and it is a bad idea from the deterrence point of view.

- There's a lot to be said for the principle [of de-alerting], but there's a reverse problem that we have to be concerned about. This strikes me as being rather hard to verify, and therefore the incentives for the side that defects first in terms

of its possible margin of victory strike me as potentially high. ... The second part that concerns me has to do with organizations and institutions. Organizations and institutions on this side are used to taking care of a live force. That induces a good bit of conservatism, caution, redundancy, concern about accidental launch, etc. ... If institutions get used to the idea that they're living in a hyper-safe world, I'm fearful that those attitudes and skills are perishable. Then if international politics heats up again for some reason... and you transition back to an alerted force, I worry about the transition problem. It's not so much the preventive or preemptive incentives which I was worried about in my first point, it's the accident possibilities. You spend a decade or two being very un-alert, and then you have to develop the skills to be alert, and you're doing it in a tense environment. Within the organizations that have to re-alert, I'm concerned about accidents, mistakes, attacks of nerves, and so on.

- If you believe in crisis stability, which is the basis of strategic arms control as we know it, then you must believe that, in most cases, to the extent that you de-alert, you destabilize the situation. ... The same crew that is telling you that defenses would be dangerous and destabilizing, that the ABM treaty is the cornerstone of stability, and that we need to do START I, START II, START III, are basically making the crisis stability argument. They are also the ones who are screaming about de-alerting. You have got to de-conflict the two at some point.

### ***Open to Further Consideration***

A number of those we interviewed considered de-alerting to be worth further study. They considered the concept of reducing alert levels to be potentially valuable, but they felt that they needed more information about the technical feasibility of implementation and verification before they could make an informed judgment. The following are representative comments.

- In principle, it [de-alerting] is a fabulous idea. If somebody really wanted me to make a judgment about it, I would want to study more detail about the verification aspects. The truth is that I don't really trust the stories that I've heard from either side at this point. ... I would want to see what everybody agrees is known, what everyone agrees is knowable but unknown, and what is not knowable. I would really want to see where is the science, where are we now, and where do we expect to go. It's a very laudable goal, but I don't know enough about it to say that I fully support it or I don't.
- It [de-alerting] is not a long-term solution to the overall problem. De-alerting, fundamentally, is a confidence building measure that can be very helpful and

useful at a time when the US and Russia are not making a lot of progress. It can relieve some of the stress on the Russian command and control system. There are technical challenges. The Russian and the US systems are very different; their technologies are different; and there are problems with SLBMs. But there has been, unfortunately, a wholesale rejection of the idea at this stage, not just by the majority people in Congress, but by the preponderance of people in the executive branch. Just like missile defense, for which we don't have a technical solution, and which, in the view of some, including me, is inadvisable, there ought to be, at a bare minimum, a research program to pursue the possibility of de-alerting. And there should be the pursuit of discussions with the Russians and other nations...about de-alerting possibilities.

- De-alerting is a great idea whose time isn't going to come because of the fundamental political relationship. First, the Russian response to de-alerting is: "Why should we de-alert when China, Great Britain, and France don't de-alert? When everybody wants to de-alert, we'll be glad to talk about it." Is everybody going to want to de-alert? No. Second, the US military doesn't want to de-alert. They prefer, rightly so, to reduce and keep the remaining forces on alert. As heretical as this may seem, that's the right argument. I'd love to see de-alerting; it's in our interests to have de-alerting; but it's not going to happen.

- If de-alerting had been proposed five or six years ago, at the time when we all thought we were in a really positive, radically transformed political relationship between the US and Russia, it may have been accepted. Clearly, one of the most important things to do—in many ways more important than dealing with force levels, and maybe even force structures—is to address the ways the two nuclear forces are operationally intertwined. ... While there is a point to some of the critiques of de-alerting—such as the problems of re-alerting—those are practical problems that would apply to some systems but not to others. While I agree that these problems exist, I don't see them as arguments for doing nothing. But they are arguments to disaggregate this issue a bit. ... While there are things that probably can and should be done, and we should be looking for ways to do them, I don't think that de-alerting measures are going to apply to the whole force, and they probably should not.

- Certainly, reducing the numbers on alert in some sense or another ought to be a good thing. Going to a situation where none of them are on alert, and exactly what that would mean in terms of re-alerting, I'd want to see the fine print. ... By the way, it's not cost free, because one problem with de-alerting is that it makes re-alerting more dangerous. If there was a crisis, it would be better if you only ratcheted up ten percent than if you had to ratchet up ninety percent, so there is a down side to that. But overall, there would be more pluses than minuses in working in that direction.

- My concerns are the verifiability and how easily de-alerting measures can be reversed, because it is very reversible in many cases. But, especially in an era where the Russian infrastructure is deteriorating significantly, not just the nuclear infrastructure, but also their early warning satellite network, the risk of miscalculation or misreading the situation is increasing. Getting Russian weapons off alert status is a very good thing. ... But, that said, practically speaking, my key concerns surrounding de-alerting are verifiability, reversibility, and just how much confidence it would really buy us.

- I put de-alerting into a category that's not quite angels on a pin, but it's for experts and quasi-experts to deal with. Some people feel it's a major symbolic change in what we're doing. I don't think whether we do it or not makes a major difference. ... To my mind, the important thing is to maintain some reasonable number of nuclear weapons and make sure they are ready. ... I'm not convinced that de-alerting will do what the people who talk about de-alerting hope that it will do. On the other hand, if we did it, I'm sure it wouldn't be quite the catastrophe envisioned by those people who say, "Oh my God, we can't possibly do that." However, you definitely don't want to find yourself in a situation where you de-alert and nobody else does, because that really would be very unstable. Verification is a very big question, and it gets down to the issue of whether we are really talking numbers, or processes, or what. So it's a good debate to have, because it gets you at a real issue. I would think that before you go and do it, you had better think it through pretty carefully.

- [De-alerting] deserves exploration—only exploration at this state. It's not clear how we would monitor the de-alerting of other people's missiles, and until that problem is solved, I would hesitate to move very far in that direction. We already have moved a bit in that direction. We no longer maintain a bomber force on alert; we have reduced the number of submarines at sea, so we are gradually moving in that direction, and we may want to move further. But it should be based upon a very careful assessment of the security position of the United States, given the growing number of nuclear powers out there, and not based upon some kind of theological concept that de-alerting, in and of itself, is stabilizing and good.

### **Section 5.3: US Nuclear Infrastructure**

**W**E ASKED OUR RESPONDENTS TO COMMENT ON THEIR PERCEPTIONS about nuclear infrastructure requirements and how they relate to nuclear security. Also, we asked them what they thought about the stockpile stewardship program and its effectiveness and prospects for the

future. We begin this section with contrasting views about the relationship of nuclear infrastructure to nuclear security. Then we divide commentaries about the stockpile stewardship program into those that are pessimistic and optimistic, and we conclude with a few comments about future infrastructure concerns.

## **Relating Nuclear Infrastructure and Nuclear Security**

A key factor in deliberations about nuclear infrastructure requirements is the relationship thought to exist between infrastructure and nuclear security. For those among our respondents who devalued strategic and extended nuclear deterrence, or those who considered existential deterrence to be sufficient to meet future US security requirements, nuclear infrastructure was considered primarily to be valuable for safety and control purposes. Elaborate measures to ensure force readiness and reliability were seen by these participants as false rationale for maintaining an unnecessarily large nuclear establishment. Other participants considered nuclear infrastructure to be the basis for the credibility of US nuclear forces that they viewed as essential for effective deterrence and nuclear surety. The following comments illustrate these kinds of contrasting perspectives about the overall importance of US nuclear infrastructure.

- We need to pay attention to the details to the extent that details are important to bringing credibility to our nuclear capabilities. But the thing that concerns me the most about the details is actually the maintenance of a nuclear establishment. By that I mean not just a stockpile of weapons and missiles and airplanes, but supporting infrastructure that gives future presidents options. Our overall nuclear capability is eroding. We actually have more nuclear weapons than we need today. It's not the stockpile that's eroding, but it's the infrastructure that lies behind that stockpile, and particularly the human infrastructure. We're losing people who know how to design nuclear weapons; we're losing military people who've had experience with nuclear operations and who understand the consequences. And so that's where we should be paying the most attention. I've thought for a long time that our nuclear dialogue always focused too much on the numbers game.
- You ought to have quality even if you take my position that it's primarily an existential matter [nuclear deterrence]. You still cannot afford to have that be a low quality component. There's a reason to have high quality personnel, in particular. The rest matters less, because people and organizations are the critical variables. I share that part of the concern. How much confidence do we need that every warhead will work as designed, for example? Not much.

Do we need a lot of confidence that they're not going to go off accidentally where they are sitting? Yes. Do we need confidence that it would be hard for someone to exploit some warheads that had wandered or gotten lost? Yes.

- We have six thousand [strategic nuclear] weapons. Let's be dramatic and say that fifty percent of them deteriorate. So what? We would still have three thousand nuclear weapons. That can cause a heck of a lot of damage, and that number absolutely serves as a deterrent.
- Whether we should have two thousand or fifteen hundred or five hundred [strategic nuclear] weapons is not the issue; the issue is what kind of an overall posture do we maintain, because as you go to lower numbers, your potential for creating nuclear weapons actually becomes more important. With stockpiles of several thousand weapons, you don't worry as much about the other fellow's ability to build up. It doesn't make much difference if he can add a hundred weapons to his stockpile, but if we get down to low numbers... then a large part of our deterrent becomes the infrastructure underlying our capabilities. Maintaining that infrastructure is the big thing that I worry about today.
- We're not going to build or test new weapons with new modalities and new methodologies. Today, the direction is to reduce stockpiles, and therefore fewer scientific workers are going to be working on it. That seems to be probably true, and that's the direction we ought to be going anyway, to a reduced stockpile and less thought that these are the ultimate weapons that we should have and use. ...it's more the existential [deterrence] fact than the efficiency. ... So, yes, I think there will be a rundown of the kind of infrastructure and scientists that we've had in the past, but I'm not sure that is all necessarily bad.
- If you're going to have a nuclear force, you have to maintain it; you have to maintain its credibility and reliability. Are we doing enough of that? My guess is that it's light. Are people taking it seriously? ... I see some indication in the national labs that they're concentrating on finding a new mission. Maybe the smartest guys aren't going into the nuclear weapons game. We ought to keep doing whatever we can—building test machines, nondestructive testing, all the things that we can do to maintain reliability.
- It doesn't trouble me that twenty-five years from now our arsenal may be only ninety percent reliable. That doesn't bother me at all. If I were a national leader facing retaliation with ninety percent probability, that would deter me, and in fact the difference between ninety percent probability and ninety-nine percent probability is just not high, given the size of our arsenal.

- There are lots of problems with deterrence in general, but the idea that our nuclear capability would not be credible enough is farfetched. This anxiety was dubious in the Cold War. It's certainly not very plausible to me now that the Russian military is in a state of complete collapse, compared with our nuclear infrastructure. So if our infrastructure has deteriorated, that's compared to what? And if it's not the Russians we're measuring ourselves against, there's nobody else in the ballpark.
- First and foremost, you have to have confidence that your weapons work, and I don't see any way to do that without periodically testing them. It's been an egregious and grossly irresponsible position that the nuclear laboratories, including Sandia, have taken to suggest otherwise. Beyond making sure that what you have works, you need to have an ongoing modernization that requires the trained weapons designers as well as testers and the production capability, and it also requires an ongoing investment in delivery systems and modernization as well. It really is a rather extraordinary thing that we have no nuclear modernization program underway today, and none in prospect, and none, in fact...for years and years in the past. ... We're taking for granted that this stuff will work forever, and that's ridiculous. ... If you have a policy that says we're going to maintain a credible, reliable, safe nuclear deterrent that has the inherent flexibility to be used if we need to (God forbid), then you will adjust your programs accordingly. You will test; you will modernize; you will, as a result, have that kind of capability.
- The labs convinced me that we could do without testing if we had an appropriate level of science backing us up. Even though I value nuclear weapons, I don't see the need to design any new ones, so I don't see the need for testing new designs. We probably could do without one of the labs. Given that we don't need to do any more designs, we don't need three nuclear laboratories. I wouldn't object to collapsing the three labs into two.
- It would take a very substantial deterioration in the infrastructure, much beyond what I think has actually occurred, to get me to question fundamentally whether these weapons will actually work when they're fired. ... We know enough to continue producing weapons that can do the job effectively and that will work over time based upon the experience we've had and non-nuclear testing. You could also make an argument that if you look at the nuclear tests we did for reliability, it was such a small number that it was statistically insignificant. Most of the reliability confidence we got was from non-nuclear testing of components, complemented by the occasional nuclear test to put the whole thing together.
- Erosion in the labs and in the military is a real and disturbing phenomenon, one that I am not optimistic will be reversed soon. ... The need to seriously consider

using nuclear weapons, if it comes, almost surely will come in a situation in which we want a small, discriminate use of nuclear weapons with military effects that one would want to assure with high probability and with very little collateral damage. There will be a lot of uncertainty in this planning, even beyond what's inherent in the situation, because the expertise has been allowed to crumble. About the best counsel I can offer to those who are concerned about our eroding nuclear expertise is to be prepared to seize the opportunity if and when it ever comes in a crisis, and, from that point on, try to rebuild the infrastructure.

- Bureaucracies don't respond to purposelessness, and you're asking an army officer or an air force officer or a navy officer to go into a career field that he perceives to be a dead end. Can you throw a little more money at it and make it a little better when you start talking about infrastructure falling apart? Yes, of course, you can do those things, but the major thing is that twenty years ago the nuclear service was important.
- I see the Department of Defense paying a lot more attention to maintaining nuclear deterrence now—a much, much higher level of attention on the part of DoD, and it's perfectly understandable. We lived through those years when the primary challenge was how do we reduce those forces; how do we right-size those forces; how do we comply with arms control agreements, etc. And there was an assumption that we have so much capability that it will be self-sustaining for a decade or so, and so we don't have to worry about it. The miscalculation was how rapidly we change our attention, and how rapidly the expertise and the focus could deteriorate. As soon as the department really became convinced that this had happened, corrective actions took place almost immediately.
- It's appropriate for a president to say that we're going to maintain a reduced nuclear arsenal, but we should make sure that these weapons work. We have to maintain the integrity, vitality, and robustness of that nuclear infrastructure. Part of the failure that we've encountered politically is that the "making sure" argument does not attract people. I'd like to keep the nuclear infrastructure—all the people that build, maintain, and operate nuclear weapons—as razor sharp as the military ought to be. You have to spend some money and occasionally expend some political capital.

## **Stockpile Stewardship**

Stockpile stewardship refers to a multifaceted program for ensuring the safety, reliability, and readiness of US nuclear weapons for the indefinite future. One of its key elements is the application of various scientific meth-



ods and computational capabilities to ensure nuclear warheads remain safe and operational in the absence of full-scale nuclear testing. Stockpile stewardship has become the shorthand term for that part of the nuclear infrastructure most directly related to the integrity of nuclear weapons, and it is the subject of the following commentaries. We divide them into relatively more critical and more supportive perspectives.

### ***Reservations About Stockpile Stewardship***

- The current so-called stockpile stewardship program is excessive in a number of ways that are damaging to the fundamental mission of the program as described by the laboratory directors and the Department of Energy and the president. First, the program's technical objectives exceed what is necessary to maintain the existing arsenal. The technical objectives go beyond simple maintenance of a shrinking stockpile. They seek to maintain the capability to develop new weapon types and to maintain the ability to break out of the existing non-testing regime. That leads to technical objectives that are extremely difficult to achieve. It leads to program costs that are unnecessarily high. And that makes it difficult for the Department of Energy to maintain support for the most essential programs; that is, those programs that are actually necessary to maintain a safe and credible nuclear arsenal. Second, it sets up a situation where inevitably there will be schedule delays and shortcomings in the achievement of technical objectives at the National Ignition Facility and at the Dual-Axis Radiographic Hydro Test Facility and other facilities that are going to lead to erosions of confidence in the program that don't necessarily have a direct relationship to the program's ability to address the fundamental purpose, which is to maintain the existing arsenal. So the stockpile stewardship program should be refocused on the most essential requirements of maintaining the existing arsenal in order to ensure the success of that objective....

- I've never been persuaded that the maintenance of the weapons is the issue with stockpile stewardship. People are interested in other things with stockpile stewardship, to put it bluntly, like development. A more narrow focus on stockpile stewardship would have been warranted, and that would have been adequate from the standpoint of the warheads. That is to say, it is one thing if you have to redesign warheads for other purposes. It is another thing to refabricate warheads based on older designs, and my understanding is that we have the capacity to do that, and we will continue to have that capacity. Now, with respect to technical personnel, that's more problematic, and there I do see potential concerns. But we have to think about what it is that people need to be able to do to feel that they are doing something worthwhile. The notion

that they are designing weapons, and that makes them feel worthwhile, seems to me to be absurd. Most physicists don't get pleasure out of doing that.

- Clearly, the country is backing away from a nuclear posture, and it is going to be hard to reverse that trend. It seems that the nuclear labs are in more and more trouble every month. They are having great trouble maintaining morale, maintaining competence.... The labs are the first places to go, and they're going to have more and more trouble keeping competent scientists.
- There's still technical know-how that has to be transmitted down the road from people who had the experience for the last forty years, and that's always a little tricky to do. ... Yes, we want to keep up that technical capacity. Is that inconceivable in a world in which we so devalue nuclear weapons? No. Is it more difficult? Probably, but the tradeoff is quite perverse if you really step back to think about it. And that goes to the issue of how you design a stockpile stewardship program. Do we really believe we are the only country on earth who will develop the technical mastery to redesign weapons without tests? Will we be better off in that environment, or worse off? So is the problem exaggerated? I wouldn't put it that way. It's been misunderstood is the way I'd put it.
- The first thing to do is to restructure the stockpile stewardship program. Instead of the program's current focus on complicated science and computing power, we should make things simpler. We should take an engineer's approach to keeping these weapons reliable in the future, knowing these bombs are going to work because we can make them again.
- You can't recruit scientists to work in the labs. People aren't doing nuclear physics in the same way they used to a few years ago. ...you have got to have that expertise—the scientists that know the physics. We have gone through one or two generations now. After all, it's been fifty years or so. Clearly, the first generation people are retired or dying off. ...the average age of scientists and engineers at the national labs is going up rather dramatically...and they are having a hard time recruiting the right kind of people. Graduate programs are not even training these kinds of people. So, yes, some level of resources has got to be devoted to maintaining our nuclear capability, maybe through an expanded nuclear stockpile management program. Such a program would be cast more broadly in terms of maintaining the reliability of our stockpile, and maintaining and ensuring the reliability of our expertise into the future.
- As to this stockpile stewardship program, I don't think they can buy that capability back without some sort of a better, more active involvement in nuclear weapons than just passing their hands over them and declaring them safe every year. I saw enough ways that nuclear weapons can deteriorate that were not ex-

pected, not planned for at all. We got surprises in the first ten to fifteen years of their lives when I was still involved with them .... Indeed, uranium is a crazy metal; it does strange things; plutonium is even worse. Anyway, all the components are chemically and mechanically different, and we saw strange things going on over time—long-range exposure over time—and you only learn those the hard way, by looking.

- If you can't test, then you can do lots of other things, but none of these other things you can do are comparable to actually testing. You should understand that the argument, such as it is, that with either testing or not testing you can get the same results in terms of safety and reliability is just not true. But if you've decided for some reason that you aren't going to test, then you do as well as you can without it in the context of a non-test regime. So in that case, the stockpile stewardship program makes sense, if it actually is funded. Their big fear is to put forward a stockpile stewardship program as a substitute for testing when you want to get the ban on testing through, and then you just stop funding the stockpile stewardship program.

- ...part of the stockpile stewardship program assumes that you can keep these weapons viable by basically remanufacturing them periodically. Well, anybody who knows anything about that...knows that you can't remanufacture some of these weapons. The components no longer exist; the people who made the components are no longer in the business. The EPA and OSHA won't let you fool with some of these components; they're toxic; they're carcinogenic; they're obsolete. So the idea that we'll just go back and dust-off the production line and crank it up again and it'll all be there is just nonsense. Even if you actually could go back and just flip the switch and start the production line again, the old timers, of whom there are still a few around, will tell you that in the past they've tried that and it hasn't worked. Something wasn't quite right.... But the thing that makes this so difficult as a subject matter is that very few people understand the reality that these are the most complex weapons, complex machines, that mankind has ever created, and the tolerances are so minuscule. As a result, differences in design specified performance can be very minor, and can be introduced in the most subtle of ways, so that even if you didn't have to worry about substituting whole new components, things that weren't ever modeled or certainly not tested in that design, you'd still have problems.

- There are things that I believe we would be doing to enhance the safety of our stockpile that we can't do, because we can't modify our weapons. We're not sure they'll work the way they're configured, let alone if we start introducing new safety features [such as] insensitive high explosives, and other modifications that would make them safer. This is one of those unintended, but quite predictable, consequences of a policy that says we're going to freeze our nu-

clear weapons programs. There clearly are things that we could be doing that would make them smaller, I think safer, more securely movable and the like.

### ***Optimism About Stockpile Stewardship***

- Can we maintain the safety and reliability of the arsenal? I would say yes, and there is a traditional set of arguments back and forth about the stockpile stewardship program's technical capabilities. I would simply say that the stockpile stewardship program can achieve the tasks of maintaining safety and reliability of the existing arsenal. But the additional issue that is important to consider is, what is our standard of safe and reliable? What is our standard for introducing a new type of nuclear weapon that is safer or more reliable? Are we willing to pay the price of introducing this new weapon or this safer technology, given the various costs—fiscal costs, nonproliferation costs, and political costs—of resuming nuclear testing?
- If you have good remanufacturing capability, in terms of numbers per year, these weapons last a long time. People wouldn't dare attack us assuming our nuclear weapons won't go off. ... Internationally, it would be a big mistake to think that if we cut back on weapons production activities and lab work, somehow we'd lose our ability to make nuclear weapons that are deliverable to any place on this earth. I believe very much in our technical capability, not simply defined as the capability of the Department of Energy sites. Also, we have tremendous capabilities to reconstitute ourselves if need be. We have the idea that our nuclear weapons should remain as they were, just maybe scaled down. We think we still need a highly trained, experienced group that can design and make the weapons, and we still need sites dedicated to weapon production. In fact, any nuclear reactor can make plutonium; and we already have enrichment plants. Many nuclear weapons aren't very advanced at all. We have tremendous residual capability to make nuclear weapons.
- I support very strongly the nuclear stewardship program and finding out what we can do with life extension, and therefore how big a remanufacturing program we need, having the capability for remanufacture of nuclear weapons, maintaining the expertise, and doing as much as we can to understand the weapons. Simulation and scientific understanding are going to be the keys to the future—not just blowing out the side of a mountain— unless the world reverts to a Cold War where we feel we have to develop new weapons. So that side is fine. I've studied the commitment of the Department of Defense less thoroughly than I have the DOE commitment (which I really know in great

detail), but my impression is that the DoD is a little too casual about its nuclear responsibilities.

- I don't see any erosion. I've worked very hard and extensively on the stockpile stewardship program, and it has been rewarded and supported handsomely at four and one-half billion dollars annually, and the laboratories are having a scientific renaissance now as they finally try and understand how these weapons work. They have rebuilt the capability of making pits; they're starting again down at Los Alamos; we've rebuilt the capacity to make enriched uranium at Oak Ridge; we are starting to produce tritium. The last five years largely have been successful. And the nuclear stewardship program and what people have done has been exactly what's needed. The scientific basis they have provided so far gives me added confidence that the good stewardship program means we don't have to do low yield testing. We're on the right path there, so I reject the notion that stockpile reliability has declined. The budgets had decreased by 50 percent, but they've come up big, and there's a program in place now, and it's improving, and the Chiles Commission report went through that. ... I feel more confident about our deterrent now than we had any right to feel a few years ago. ... We're understanding the weapons. We're doing better than we have in a long time, so I think we're [moving] in the right direction.

- Can the diversion of career paths be moderated by other opportunities for work in nuclear physics within the labs that provide satisfactory...levels of competence for the stockpile stewardship program? I certainly hope so. I'm inclined to think that the answer is yes, but I do not think it is a foregone conclusion that these other career paths, other opportunities for work in the nuclear field, will give us a perfect confidence. ... In terms of the fabrication issue, yes, that is a problem. I don't think anyone knows; I don't think anyone steeped in engineering, certainly no one steeped just in systems analysis or strategic analysis, can say with confidence either that we cannot replicate the parts in the future, or that we can. That's a zone of uncertainty. But, I have pretty good confidence that we can...maintain the engineering skills to permit us to do those fabrication jobs. ... My bet is that the materials engineering profession will continue to be sufficiently proficient and versatile that they'll be able to fabricate anything that we take out of an existing nuclear weapon, but that's a bet.

- Just because the Cold War and the nuclear arms race are over, that doesn't mean you're not going to be able to find some number of physicists interested in warhead design. There will be some. And you're trying to preserve essential capabilities. You want to make sure your own stockpile is as reliable as it can be within the constraints of a non-testing environment, and I think you can do it. We've met bigger challenges in the United States. ... When we first built the bombs, we created them with physicists who didn't know how to build nu-

clear bombs. Make friends with physicists who are not in the nuclear weapons area. Find ones that are not totally unsympathetic to warhead design. Bring them in every now and then and give them a briefing. Treat them like a reserve if you ever have to expand.

- Some people intuitively say that if you have a big arsenal, and you're never really going to test it, that's bad, but if you just randomly test one, and it works, then you can be confident. But that's not true, basically. Most of our testing has not discovered any real problems. ...you can periodically peek in and do various kinds of testing. Not only visual testing, but all sorts of testing to see if things are going wrong. Let's say that the high explosive is deteriorating because of alpha decay of the plutonium pit. You can check that out. Then you can fire off the high explosive by itself, without the pit. You can test it, and if it comes to that, you can remanufacture all of these things. In other words, all of the weapons in our arsenal have been tested to a very high degree. We have very high confidence that if we use them, not only will they work, but they'll work very, very well.

- The infrastructure can and should be a lot smaller than it was during the Cold War. ... We do still need an infrastructure, and it ought to be good, but it doesn't have to, and it's not going to, do the same things that it used to do. Even if the CTBT didn't exist, I don't think that we're going to need to be doing a lot of new weapons design. It is not a high priority objective, although I know a lot of people in labs who would dispute that. But we do need to preserve enough capability so that the stewardship of the existing weapons, however we choose to do that, is something we have reasonable confidence in. Putting aside the question of new designs, we are going to require some people with a fair amount of historical memory to keep the current designs operational. We should also maintain some residual ability to reconstitute a more serious infrastructure if we ever need it, although I don't anticipate that, at least not in the near-term. But again, I can't rule it out, precisely because the role of nuclear weapons is less and the science is much less interesting, to say nothing of the other, more tangible roles. It is going to be hard to keep the right people.

- There is no guarantee that stockpile stewardship will allow us to maintain a nuclear stockpile over the long-term without testing. So what we're really looking for is the best shot at that. We're asking, are we doing all the things that the best minds can think of to give us the highest probability that we'll be able to maintain the stockpile for the longest period of time without having to resort to a return to testing. ... What we're doing very well right now is addressing the weapons performance issues, the weapons aging issues, understanding the physics, designing and funding facilities that will give us computational capabilities, that will give us new insights into first principle physics, and will allow us to ensure the reliability, safety and security of the weapons. We really are putting an

enormous amount of effort into that. It's well thought out, and we're on the right road. The other side of that, of course, is that we have to be able to produce these things. We have to be able to produce the thousands of parts, because every part in every weapon will have to be replaced. So far, we're doing a lousy job in terms of production facilities and production capabilities for everything from the physics package to defining what Kansas City and Sandia need to do for non-nuclear components. In these areas, we're way behind the power curve. We're now working hard on it, but it's just not glamorous enough, I guess. It just doesn't get sufficient attention and investment.

## Future Infrastructure Considerations

- It [nuclear weapons infrastructure] is not a problem now, probably not a problem for the next twenty years, but it's likely to become an increasing problem sometime in the second decade of this century. ... If you look at Air Force plans, the B-52 bomber will be the backbone of our bomber force in the year 2040. ... We are going to have serious problems with regard to the missile force when we replace Minuteman III and the Trident missile sometime in the second decade of the century. We will shut down those capacities. Those are the delivery systems, and if you look at the nuclear weapons themselves, it is presumed that somehow or other we can have a nuclear test ban in perpetuity, and the reliability of the nuclear weapons will not be affected. That seems, to me, to be a very dubious premise. ... And, of course, as you look out to that period in which we need to worry about these problems, you will discover that laboratory personnel who have had actual experience in the design and testing of nuclear weapons will be long gone. ... There's a difference between having material on paper and having people who are experienced, and we are going to lose those with experience.
- For now, the relationship [between nuclear infrastructure and deterrence] is tangential. However, I do not think the link between deterrence and the state of our nuclear infrastructure will be peripheral or tangential in twenty or thirty years. There is a threshold beyond which we can dismantle. One of the characteristics of great power status is a large margin for failures. You can move up to that line and probably pass over it a little bit without encountering significant risks. Can I envision a future in which decades of neglect, declining budgets, and the inability to test nuclear weapons diminish the robustness of the arsenal? Yes. Do I envision that the arsenal would ever reach a point of being ineffective? No. Can I envision an era in which other states conclude that our arsenal is ineffective? No, I cannot envision us ever moving that far across that threshold into a domain where the arsenal didn't work. It's foolish and shortsighted to allow these sorts of forces to cause atrophy within the nu-

clear establishment. ... The real question is whether we can envision a time when the failure to test, and therefore to maintain the coherence of that whole infrastructure, imposes significant pain. We probably can, but from the perspective of a senior policy maker, I wouldn't be worried about that happening today, a year from now, five years from now, or maybe even ten years from now. ... What I do worry about is the lack of an *esprit de corps* and cohesion within the nuclear establishment.

- Stewardship problems change when you get below about a thousand to two thousand [nuclear warheads]—some low number of thousands. Now that doesn't mean you couldn't do it, but the stewardship program is really designed to function at around a thousand or two thousand. If you go very much below that number, then you have to rethink the structure.
- Maintenance of personnel is the first worry. I don't know that it's a gaping hole yet, but it is *going* to be a gaping hole. Second, we ought to be looking at our plans for the 2010–2015 time frame, because by that time, we are going to have more serious threats out there, in all likelihood, and we will find that our posture has deteriorated. ...you will need to have very high confidence in the reliability of the force in the future as the strategic environment changes. You may not need that [now], but you will in the more distant future. And manufacturers change; characteristics of components change; and you want to be sure that a nuclear weapon will work, particularly if we get the numbers down.
- The priorities for investing have got to be in sustaining the scientific and technical capabilities to maintain the weapons themselves, and that's true whether it's three hundred weapons, a thousand weapons, or thirty thousand weapons. That means the people who work on those weapons have to be part of our supreme national interest, and the technical and scientific infrastructure that supports them has got to be fully maintained. So it's really the people and the institutions that those people live in that are the highest priority we've got.

## Section 5.4: Characterizing Group Views

**T**HE AREA OF GREATEST INTERGROUP AGREEMENT RELATED TO THE ISSUE of the minimum acceptable number of nuclear weapons. Though there was widespread disagreement about what the actual number might be, most participants agreed that numbers of nuclear weapons today have less relevance than was attached to numerical issues during the Cold War. Most also agreed that the US nuclear arsenal can be reduced below current levels safely. Also most respondents no longer considered it necessary, or even



desirable, to roughly mirror Russia's nuclear forces, and some called for the US to determine its force requirements more independently of the size and composition of other countries' nuclear forces. As is summarized below, opinions were more divided about de-alerting and about the current state and future direction of US nuclear infrastructure requirements.

## **Group One**

Majority perspectives within Group One included strong support for deep numerical reductions in the US nuclear arsenal, de-alerting all nuclear forces, and confidence that the integrity, reliability, and safety of US nuclear weapons can be assured without nuclear testing.

Most participants in this group advocated deep and immediate reductions in the numbers of US nuclear weapons to levels of a few hundred or even lower. They considered such reductions to be important steps toward the goal of marginalizing and eventually eliminating all nuclear weapons. Most were impatient with stagnant arms control processes and sought unilateral US initiatives that would stimulate mutual reductions in US and Russian forces. They also supported introducing multilateral reduction processes as soon as US and Russian forces approximate the levels of other nuclear weapons states.

De-alerting was strongly supported both for its expected reductions in nuclear dangers and for its stimulus to moribund arms control processes. Members were optimistic that verification and re-alerting issues associated with the de-alerting process could be resolved satisfactorily if US and Russian technical and military communities were mobilized to address the issues.

Though some members of this group were not satisfied that the current stockpile stewardship program is well conceived, all were confident in US technical capabilities to maintain the arsenal without nuclear testing. Most preferred for the US to adopt more of a caretaker approach to safeguarding the arsenal while political processes advance greater denuclearization and eventual elimination. They were suspicious that the nuclear establishment would use stockpile stewardship to develop new weapons designs and techniques, and they generally downplayed concerns within the national laboratories about recruiting and sustaining scientific expertise.

## **Group Two**

Members of Group Two also supported significant reductions in the numbers of nuclear weapons, though some members were more cautious about reducing below a thousand strategic nuclear weapons without assurances of comparable reductions on the part of Russia. In general, they supported the levels being suggested for START III, and wanted to move more aggressively to reduce all types of nuclear weapons, including non-strategic categories. Some advocated eliminating tactical nuclear weapons because they are no longer required, and because such steps would strengthen global nonproliferation objectives.

Most group members supported de-alerting, and considered current Russian command and control capabilities to be of concern. De-alerting was seen as an important intermediate step that is technically feasible and potentially verifiable. In their view, de-alerting would accomplish two objectives. First, it would move the US and Russia further in the direction of marginalizing the role of nuclear weapons, and second, it would reduce the likelihood of an accidental or unintended launch by either side.

As to nuclear infrastructure, Group Two members were optimistic that stockpile stewardship and other US technical efforts, in the absence of nuclear testing, will be able sustain a declining arsenal sufficiently to retain any deterrent benefits while the international community can be led to increasing stages of denuclearization. Some members questioned the requirements for current levels of investment in stockpile stewardship, considering them to be excessive. Others acknowledged that organizational and personnel challenges need to be carefully managed, but most were confident that the scientific communities involved could adapt to those problems.

## **Group Three**

Though most members of Group Three agreed that further reductions in the US nuclear arsenal were warranted, they were more hesitant to suggest levels below one thousand to fifteen hundred strategic weapons. They were generally supportive of the prospective numerical levels in START III, but also recommended that the US consider selected unilateral initiatives where appropriate to reduce or even to eliminate certain classes of weapons. Several members of this group advocated determining US requirements independent

of arms control processes, and moving to those levels without necessarily waiting for Russian agreement.

Though some group members were open to suggestions for reducing levels of alert, many were skeptical that de-alerting arrangements with the Russians could be verified, especially those pertaining to naval forces, and they otherwise were hesitant to advocate bilateral US/Russian de-alerting in the absence of similar postures on the part of other nuclear armed states. Most maintained a relatively high level of confidence in Russian command and control arrangements, and they were less concerned than members of Groups One and Two about accidental or mistaken launches. Some noted that, in their view, lower alert levels did not necessarily equate to lower nuclear dangers, citing concerns about escalatory re-alert processes and creating incentives for preemption. Most were skeptical of de-alerting proposals.

Many Group Three members were concerned about maintaining a vital and supportive nuclear infrastructure in the absence of nuclear testing over the long-term. Many considered those risks to be acceptable for the short-term, but were much less sanguine about long-range implications. Most were supportive of, and confident in, stockpile stewardship efforts, but they were worried about maintaining institutional integrity and quality of personnel both in the national laboratories and in the military services. They worried that as the stockpile is reduced to much lower levels the scientific institutions critical to US nuclear capabilities will atrophy or seek other missions, and that as delivery systems are reduced and military focus and priority shifts to non-nuclear missions, the needed depth of military expertise will be lost.

## **Group Four**

Majority perspectives within Group Four included caution about deep numerical reductions in the US nuclear arsenal, strong opposition to de-alerting nuclear forces, and skepticism that the integrity, reliability, and safety of US nuclear weapons can be assured without nuclear testing.

A few members of Group Four did not support further reductions of US nuclear weapons below current levels, but most were of the opinion that the arsenal could be reduced safely, but not to extremely low levels. START II levels were generally acceptable to most members of Group Four, but they

did not support eventual reductions below about fifteen hundred strategic weapons. Some were of the opinion that Russia's nuclear arsenal will decline in size because of economic limitations, and that the US can afford to reduce somewhat as Russia's levels come down, but they cautioned about being attentive to future developments in China.

De-alerting was dismissed as impractical and dangerous by most group members. It was characterized as merely one in a series of steps designed to denuclearize the US, and was considered unverifiable. Members were especially wary of the implications of re-alerting during future crises, and felt that verification and re-alerting risks far outweighed any potential benefits of de-alerting. All were either skeptical about or opposed to the concept.

Nuclear infrastructure concerns were common among the perspectives of Group Four, and most considered nuclear testing to be vital to maintaining US nuclear capabilities. As a result, they generally were critical of stockpile stewardship efforts, and were concerned that the Departments of Energy and Defense were no longer affording sufficient attention and priority to nuclear weapons issues, especially recruiting and retaining sufficient numbers of skilled personnel. Also they argued that new nuclear weapons designs should be pursued to address emerging problems such as deeply buried or fortified targets. Most felt that the option to resume nuclear testing should be preserved for the purposes both of stockpile assurance and weapons development.

## **Volume II: Chapter Six**

### **Missile Defenses**

**I**N THIS CHAPTER WE COMPARE RESPONDENT PERCEPTIONS ABOUT NATIONAL and theater ballistic missile defenses. The first section contrasts views about the validity and relevance of the ballistic missile threat to the US. In section two, we discuss the relationship between theater and national missile defenses. In the third section, we examine views about how nuclear deterrence is related to national missile defenses, and in the following section we compare perspectives about offensive–defensive relationships. We summarize discussants’ views about the prospects for effectiveness of NMD in the fifth section. In sections six and seven, we compare views about the implications of national missile defenses for the ABM Treaty and potential responses to deployment. In the final section, we summarize group perspectives.

#### **Section 6.1: Perspectives on the Ballistic Missile Threat**

**R**ESPONDENTS WERE DIVIDED OVER THE SEVERITY OF THE BALLISTIC missile threat to the United States. Some argued that the risk to the US from ICBMs was not worth the investment in national missile defenses. Several argued that ballistic missile defenses would do nothing to protect against other means of delivery, such as clandestine emplacement of a nuclear device. Others argued that the spread of long-range ballistic missiles—particularly in the hands of seemingly irrational regimes such as North Korea—creates a pressing need to deploy NMD.

#### **The Ballistic Missile Threat is Overblown**

- ...North Korean missiles...are not a serious threat to the United States in the next five to ten years. Even if they could deliver missiles to the United States, it's hard to see why they would attack our homeland rather than Japan, South

Korea, or US forces in the region. ... It's a very low risk that the US will be hit by a ballistic missile compared to other risks posed by North Korea.

- ...here in Washington, DC, I don't have tornado insurance or flood insurance or earthquake insurance. If I lived in Kansas, I'd certainly get tornado insurance; if I lived in California, I'd get earthquake insurance; and if I lived in North Carolina, I'd get flood-hurricane insurance. You spend your resources to insure against the most likely contingencies, firstly insurance for fire and theft. What we would be doing if we go ahead with missile defense is spending tens of billions of dollars on the least likely scenario.
- They [Russians] feel that our arguments about rogue states are not credible. I don't think they can imagine that the last remaining superpower is really worried about North Korea or Iraq. I feel that way strongly; it's ridiculous. We've created a threat out of nothing.
- That whole thing is a tough problem. If somebody has a weapon of mass destruction and wants to blow up or poison a US city, a missile is one way, but that might be one of the harder ways. There are a lot easier ways to bring a ton, or whatever it is—a package—into the United States. So while we ought to focus on the technology of missile defense, if we had a perfect missile defense, I would not yet be perfectly comfortable, because I could still get blown up by a lower technology solution to the delivery problem.
- If a nuclear weapon comes into the US, it's much more likely to be in a [shipping] container, not on a missile. And about four percent of the containers get inspected—maybe 8 to 10 percent with National Guard search capability. So that's a real vulnerability.
- Missile defense is against the improbable, but not impossible, notion that somebody could get long-range missiles with nuclear warheads. There is nobody that I can think of that is in that position right now, not even North Korea, although it could be sometime far in the future. We have a little time perhaps, but these things take time to develop, to get them right, and to deploy them. While it's not a matter of vital immediacy, it is protection against an improbability, but that's the way the world is—full of improbabilities.
- It [NMD] is pabulum for the Republican elites and not a serious military force, not a serious defensive force. It's based on ideological beliefs that we need missile defense rather than the reality that a missile defense would actually defend the United States.

- A dramatic example of what the collapse of the adversary has done concerns the changing rationale for national missile defense. McNamara rationalized our first missile defense deployment as being against China. Reagan rationalized the strategic defense initiative as being against the Soviet Union. The Clinton administration and its political opponents characterize NMD as being against North Korea. It's an interesting evolution of how the enemy has changed over the point of the same issue.

## **The Ballistic Missile Threat Is Real**

- There is an increasing awareness in this country of our vulnerability to a missile attack against us—that we can't really do anything about it. I know that the majority of Americans still think that we have defenses against ICBMs, that if one is launched against us, we'll just shoot it down. But that majority is shrinking, and it won't be too long before the majority realizes that we can't shoot it down, and they won't much like that situation. The American people are not going to much like being held hostage to a large number of countries that are going to have the capability to strike the United States homeland. And it's going to be very difficult to put together a force posture that reassures the American people that we've deterred all those potential adversaries from striking us.
- The most serious single threat is the emergence of weapons of mass destruction delivered by ballistic missiles, for the reason that we have no defense against such weapons. Moving from that, clearly there are other forms of delivery of weapons of mass destruction, such as cruise missiles, suitcases, tramp steamers, and the like. That emerging reality is what makes today's environment especially dangerous, because there is no disincentive to would-be wielders of weapons of mass destruction to invest in these delivery systems. To the contrary, there is a considerable incentive for them to do so, not least because they are suddenly players on the world stage, which they were not before they acquired this capability. They suddenly have deterrent capabilities that they didn't otherwise have.
- As the legs of the proliferation threat grow, as we are now seeing in North Korea, the damage limitation capability is going to have to extend to the continental United States, and I shouldn't say just the continental United States, it would have to include Alaska and Hawaii as well. The development of the Taepo Dong I and II missiles has come as a surprise to some, although others expected it in the kind of time frame that we are now seeing. What that means is that the United States is going to have to be able to present a picture to the South Koreans or the Japanese of a reliable ally on the Korean peninsula. We are going to have to be able to explain how we plan to send expeditionary

forces into that theater, with North Korea potentially holding US cities like Seattle, Los Angeles, or Anchorage at risk, with leadership that we know very little about, and probably don't have a clue as to how to deter reliably.

- We should not only be developing missile defenses for ourselves, but systems which we could share with allies, because in many cases the ability to provide the defense to allies may make the difference between whether that ally will be with us or stay neutral, and whether they'll let us use their bases or not.

One respondent suggested a novel argument for partially addressing the ballistic missile threat by suggesting that the Nunn-Lugar program is a more efficient way than NMD to reduce the risks of accidental or unauthorized launch of ballistic missiles from Russia or their leakage to other states.

- An argument I've tried to make with some of the folks in Congress who are great lovers of NMD is that those aspects of the Nunn-Lugar program that fund or facilitate the dismantlement of Russian nuclear weapons ought to be regarded as prewar NMD that has a kill probability of one. It can't get any better than this. This is the perfect defense. Eliminate those warheads. Once they are airborne, no matter how good you are, you're not going to get odds anywhere nearly as good.

## Section 6.2: Perspectives on Theater Missile Defenses

**W**E FOUND CONSIDERABLE SUPPORT FOR THEATER MISSILE DEFENSES, even among some who were opposed to national missile defenses. A number of respondents differentiated between the task of defending US forces, friends, and allies abroad and protecting the US homeland. Some, however, believed that the deployment of theater defenses could have undesirable political consequences. Others argued that the demarcation between theater missile defenses and national missile defenses was unclear, and that a robust TMD system could violate the ABM Treaty. Another argued that the TMD program was driven by politics more than threats. The following quotations illustrate these perspectives:

- I think about theater missile defenses differently from national missile defenses. I tend not to tie them, although they're tied logically, because the technologies feed each other. ... I think of theater missile defenses as being wholly different in their political consequences. What they offer is protection for your forces when deployed overseas.



- ...it is not as easy to disentangle these things as the advocates would like us to believe. Because of that, you get a strategic consequence pretty early on in any contemplated theater missile defense deployment, particularly anywhere in Asia. The best analogy is that of the use of antibiotics. Antibiotics, like theater missile defenses, are desirable under the proper circumstances, but they are extremely dangerous if used irresponsibly. If you don't use antibiotics carefully, only in very specific circumstances, and in the context of very good hygiene, you guarantee drug resistant strains. If you deploy theater missile defenses irresponsibly, i.e., without agreement on terms from all parties who feel that they're concerned, you guarantee penetrating offenses. You guarantee an offense that will overwhelm the system, which is very easy to do compared with the technical capabilities of defensive systems.
- I'm not a great fan of ballistic missile defense, except in regional contingencies where I think it makes a lot of sense.
- I am supportive of theater missile defenses.... I am more skeptical, at this point, about a national missile defense, because of the consequences in a lot of areas, and because we're still technologically in the rudimentary stages.
- For short-range non-nuclear armed missiles against troops in the field, it's like an air defense; you do what you can. I totally support that effort; I totally support that effort for theater and battlefield defense against missiles. The only assumption is that the incoming missiles are not nuclear, and you don't have to shoot every one down.
- I'm not a great advocate of theater missile defense, even though public opinion and congressional opinion is very strongly for it. Theater missile defense is not going to stop rocket attacks and short range surface-to-surface missiles, so it is something that I really don't see that we absolutely need.
- ...it seems to me that there's not much disagreement that we need to move forward with some level of theater missile defense, but if we do it without great care, we're likely to see a further surge in the deployments by China of the kinds of theater missiles that are genuinely threatening to our allies and friends in Taiwan and Japan and other areas such as South Korea. At the same time, I think we can contemplate a way to deal with the emerging proliferation of ballistic missiles on an agreed, cooperative basis.
- When you have a really capable theater missile defense with all the sensors and everything, then you have, of course, the basis for nationwide defense.

- Nobody who was involved in crafting the ABM Treaty would think that things like the theater missile defense systems, which we have already put into being—in particular the Navy Upper Tier—would be permitted. ... If any of the systems we're now talking about had been set forth at that time by the Russians, we would have said it's totally unacceptable.
- I can only think that we're building missile defenses now purely for political reasons, and we don't even intend those defenses to work. My view stems partially from the problems that have been raised by both of the Welch panels. ... He [General Welch] suggests that the time lines for these programs are established by politics, not by the technology. When we find problems, we don't stop and rebuild our program; we don't hold up the program until we figure out how to do it better. Instead, we keep the same schedule, and we just push forward. The panel called this a "rush to failure."
- I put theater missile defense above national missile defense, primarily because I don't think that we've sorted out all of the technological problems with national missile defense. But increasingly, the distinction between theater missile defense and national missile defense is diminishing as technology advances, just as the distinction between strategic and theater forces has largely disappeared.
- ...the entire way in which our cooperation with Japan on theater missile defenses fits into the larger picture is very interesting. The Japanese will want missile defenses for their own legitimate security reasons, and the technology overlaps with national missile defense technology. We will have to make choices there. Do we want to draw lines, or not? We've already made a decision though; we're going to go for national defenses. We should have a debate, but we're headed that way.

### **Section 6.3: National Missile Defenses and Nuclear Deterrence**

**S**OME RESPONDENTS BELIEVED THAT DEFENSIVE SYSTEMS WERE NOT needed, because the threat of offensive retaliation was strong enough to deter potential actors. Others argued that while deterrence is generally effective, especially with most state actors, it might not be adequate to deal with rogue or non-state actors. Still others noted that defensive systems could enhance deterrence. The following quotations typify the range of opinions on the relationship between nuclear deterrence and missile defenses:

## **Deterrence Is Sufficient**

- ...our eventual capacity to respond to, or retaliate against, known attackers is very large, and it should be an adequate deterrent. In other words, and here we come to an actual position of our organization, I don't believe in the need for nationwide missile defense.
- The United States of America possesses a very large number of nuclear weapons, and I happen to be one of those people who believes that nuclear weapons have a certain deterrent effect. I happen to believe that one of the few circumstances under which American nuclear use is credible is if someone has just nuked us. Our nuclear threat is highly credible under those circumstances. And so we already have a pretty good way of dealing with that threat that doesn't compel us to spend an exorbitant amount dealing with what still appear to me as being somewhat remote threats.
- Rhetoric and policy have moved away from deterrence, because there's been a much greater consensus in favor of active strategic defense, ballistic missile defense, and that has ambiguous implications too. Many people who are in favor of ballistic missile defense don't see it as a tradeoff with deterrence, because they assume that we can both have our cake and eat it too. Maybe so, but by some measure it means less of a span of our total security policy concerns are covered by deterrence.

## **Deterrence Is Not Always Adequate**

- To me you need [NMD] only in those circumstances where you fear that the government will be so totally illogical or irrational as to use them [nuclear weapons]. ... The North Korean government does seem to be frequently irrational. ... They do act irrationally often enough that one can almost visualize this country [North Korea] saying to itself that our ideology is so important, and we're about to go under, and things are so difficult that we'll go out in a nuclear flash. In that situation, it's more than prudent to have a security net in the sense of a missile defense. Then you don't have to say, "Well you hit us, so we'll hit you."
- We can't assume that deterrence will always work, and therefore if it doesn't work, you want to have some backup. It's also very important politically. Look at the way very inadequate and crude missile defenses were used during the Persian Gulf War. The fact that we were able to deploy something to Israel probably kept Israel out of the conflict, and that was in our interest at the time.

- The essence of the evolving political structure is that states will want to be able to deter us. The threat of having many blocks of downtown New York City vaporized would be a significant deterrent to us. That's the defensive option.
- I think it [the relationship between nuclear deterrence and fundamental US values] is problematic, and [it's] one of the reasons why I personally would prefer to see us able to rely increasingly on defensive means of protecting ourselves instead of relying on a strategy that does depend on inflicting unprecedented damage on others, and invariably not just on [those] who are responsible for causing us the problem, but on their people as well, and certainly their environment—our environment.
- We need a strategic defense system, but it's going to be a very long time before we can have a defensive system that would be 100 percent successful against any kind of attack. Therefore, I think our security policy should continue to include strategic deterrence, and that means that we have to have some nuclear weapons for that purpose.

## **Section 6.4: Relationship Between Offensive and Defensive Forces**

**A** number of policy experts discussed the relationship between deploying national missile defenses and the size of offensive arsenals. Some argued that the deployment of defensive systems would eliminate the possibility of further strategic offensive arms reductions. Others felt that NMD deployment was required to achieve meaningful offensive force reductions. Still others believed that defensive technologies would eventually render ballistic and cruise missiles obsolete. The following illustrate these divergent views:

### **Defenses Are Incompatible with Arms Reduction**

- A national missile defense conceptually runs counter to deep reductions of nuclear weapons. The reason we had an ABM Treaty in the first place was recognition that there was an interaction between ballistic missile defense and deterrence. If you make a large enough national missile defense, then people will either perceive that their deterrence is fading or lost.
- It's not a good thing to try and do these things [deep reductions in nuclear arsenals and national missile defenses] together. If you do decide to opt for strategic

defenses, you're not going to be able to get deep reductions. Countries are going to want to keep larger numbers if we or others develop defenses, so it's a tradeoff.

- It ought to be in our interest to bring those totals down, if only because it reduces the costs, and in some trivial, marginal way at least, it enhances our position in trying to restrain increasing deployments by China and others. Of course, all this will be tossed out the window if we go ahead and deploy some antiballistic missile defense.
- Fundamentally, national missile defenses are incompatible with the elimination of nuclear weapons. Because...at lower levels—say at a hundred nuclear weapons, whether they be strategic or tactical—if one country has a national missile defense system, other countries' smaller nuclear forces are, in theory, eliminated while preserving the nuclear weapons of the country with a national missile defense system. So, at that point, it is fundamentally destabilizing.
- I view national missile defense fundamentally as the defensive half of counterforce. If you want to get a first strike capability against somebody, you want to have the sword *and* the shield. You want to have the forces that can take out the opponent's forces, and then, assuming you miss some, you need to have both national ballistic missile defenses and civil defenses to absorb those warheads that you missed. Population defenses should be judged in this context. I'm leery of building a national missile defense for the same reasons that I'm leery of pursuing a first strike counterforce capability.

## **Missile Defenses Complement Arms Reduction**

- I cannot imagine going to very low levels of nuclear weapons *without* defenses, yet the current argument is that you can't go to very low levels *with* defenses. It's the opposite. We want to have a viable deterrent force posture that covers a range of targeting, and we want to have offense supplemented with defenses so that the total is greater than the sum of the parts.
- Those in the US who would want to see [national missile] defense go forward, if they gain the upper hand, may be willing to do a START III deal. But it depends on how much the Russians demand in the way of limitation, interestingly enough, on the defensive side, not how deep they ask to go on the offensive side.
- Taking into consideration that no potential adversary could conceivably deploy a ballistic missile defense, certainly not one that could deal with our penetration aids and decoys, we could easily go down to a thousand [strategic nuclear weapons].

- The main argument for an ABM Treaty was that if we didn't have a treaty, and we went ahead with ballistic missile defense in a major way, the principal effect would be to induce the Soviets to increase the levels and sophistication of their offensive forces. We would do the same if they deployed defenses. Given the propensity of military people to reasonably base their planning on worst case analysis, and considering the uncertainty of performance of those kinds of defenses, any deployment by either side would probably mean an over-reacting increase in the offensive forces of the other. Thus, it was believed that the ABM Treaty might prevent an offense-defense arms race that would likely not improve—and might reduce—the security of the two sides, while being very costly to both. Those arguments have no validity at all anymore, because the Russians are in no position to compete with the United States in an arms race.

### **Toward a New Offense-Defense Relationship**

- With the US decision to actually deploy national missile defense, if we continue to care about the stability of our deterrent relationship with Russia, then we have got to basically renegotiate with Russia and agree upon a new relationship between offenses and defenses. And if that involves significantly low numbers of nuclear weapons, then other powers like China, France, and Britain, should be involved as well. Whether that's formally negotiated or simply discussed does not mean that we need to open up multilateral negotiations. We will need to re-think that whole relationship between offenses and defenses, and not just unilaterally, but in a way that brings Russia, in particular, and perhaps China and other declared powers, as well, into some implicit consensus. ... The objective is to get to the minimum levels of strategic nuclear weapons that are needed to maintain a stable deterrent in the context of the other side having national missile defenses.
- If you have  $N$  interceptors, then  $N + 1$  gets through. This is the basic proposition that underlies fears of offense-defense arguments. Defenses tend to be self-protective, so they fail catastrophically. The net outcome of offense-defense races is highly contingent on cost exchange calculations which even the most ardent proponents of defenses don't suggest favor the defense. I haven't heard anybody suggest solutions to these problems, so I have doubts about whether we really end up with meaningful missile defenses against significant nuclear threats.

## Section 6.5: Effectiveness of National Missile Defenses

**V**IEWS OF THE PROSPECTIVE EFFECTIVENESS OF NATIONAL MISSILE DEFENSES varied considerably. Some policy experts were highly skeptical that the United States would be able to field an effective NMD system. Several were concerned that NMD components would not undergo rigorous, realistic testing prior to deployment. Others expressed much greater confidence in US technology. Several experts noted that deploying nuclear warheads atop NMD interceptors could yield a highly effective defensive system. They noted, however, that such a plan appeared to be politically unacceptable.

### NMD Will Be Ineffective

- ...missile defenses are not cost effective. They're not technically achievable. And, according to all the signs [that] we've seen recently and over the last thirty to forty years, they would promote the development—if not just in the near-term, over the long-term—of strategic nuclear weapons systems.
- I'm sure that we can make better defensive weapons than we have, but I don't believe a reliable defensive system is at all possible. It wasn't ten years ago; it's not today; and it won't be in ten or twenty years from now.
- I've yet to see much evidence that missile defense is going to work well enough to be worth whatever it's likely to cost. If it works tolerably well, and can deal with small attacks, and doesn't cost a lot, we'll be doing OK. Otherwise, it's not so smart.
- My worry is that we're designing a system that after the tenth time it's used in a real war, we will have figured out how to make it work. It's probably not going to work very well the first or second time, and if it doesn't work the first or second time, a lot of heads are going to roll, and the system will be scrapped—not to mention the devastation that may result in Chicago or wherever. We have a conundrum: the schemes that seem reasonably robust against counter-measures are politically or operationally naïve, and the ones that we are able to muster some political force behind are easily countered.
- You could build a defense that might work against that errant missile, but you would never know until a missile was fired and you tried to fire something against it. It is totally unknowable, and in any other realm we would not spend billions of dollars on such an unpredictable system that you can never really test. The tests we're conducting now at Vandenberg Air Force Base and Kwajalein

will never be able to duplicate a real world situation. Societies have spent much of their economic resources on dreams or goals that have little basis in reality.

- If I were director of the strategic missile defense office, which I'm not, I would say that if we want to sell this thing to our critics, let's look at the toughest problems and deal with them first. ... If they want to convince me that this is going to work, put a decoy up there with the same temperature as the warhead, and then you tell me how an infrared sensor tells the difference.
- The fundamental problem with ballistic missile defense now is not the kill mechanism, it's handling the decoys, command and control, the reliability of computers, and all that sort of thing.

## **NMD Will Be Effective**

- We should build the kind of missile defense that we need. I'm not a bit amused by people who say that if we could build NMD, they'll just use cruise missiles. Fine, then we should build cruise missile defenses. You can't get off the hook with me on those things. The United States has more money and more technology than any other country in the world. That is a fact, and this sort of blue funk we've gotten ourselves into of saying, "they'll just overwhelm us," is ridiculous. Listen to what you're saying; Iran is going to overwhelm American technology? If that is the case, then let's turn out the lights and go home.
- One can envision a world in several decades in which neither ballistic missiles nor cruise missiles could strike American soil, because we could destroy them either before they came out of the silo, after they are launched, or as they flew over the ocean. A not terribly unrealistic scenario is one in which even though nuclear deterrence remains a measurable part of international discourse, technology may put other states in a position where they can't deliver weapons against the US in ways that would have significant military effects. One nuclear weapon going off in one city would have devastating human, economic, and political consequences, but that's not the same as military consequences.
- Well, I thought the strategic defense initiative was rather foolish from the start. ... In terms of the massive threat that we faced then, I didn't think SDI would technically make any sense. But now that we're dealing in a different era in which ballistic missile defense becomes technologically doable, it may make some sense in a mix of strategic policies. It's ironic that, technologically, we know how to do it easily with very small nuclear weapons, but that's just not an option. So we're making this thing technologically very difficult for ourselves (hit-to-kill) because there's so much emotion connected with things nuclear.



- It [the use of nuclear interceptors] is not a trivial problem, because we rely upon all sorts of things floating around in space. But in terms of dealing with a nuclear problem that might politically have strategic uses, it is plausible that nuclear defenses would seem to be a part of the answer, and a big part of it. The fact that we are not spending time on that is an issue. And it is not simply the result of the drawdown. It is primarily the result of a political mentality, which is, "Nuclear weapons are bad, anti-missile defenses are probably bad, and if they had nuclear warheads they would certainly be bad." And to the extent that people need to be encouraged to think their way through to the possible use of nuclear weapons on ABM systems, this just isn't going to happen.

- If you think of contingencies where you want to be 100 percent certain that New York or whatever capital does not get vaporized, then you think seriously about nuclear armed interceptors. As people move to the next generation of ballistic missiles, which will employ modestly effective penetration aids, and they do things like saturation attacks, nuclear weapons are very good at dealing with that. ... If you send a bunch of re-entry vehicles through in a tight cluster, it's just a big target for a nuclear weapon. Its kill radius is quite large. So people have assumed that PGMs of a particular kind are a substitute for nuclear weapons, but in the active defense role, that is something that should be re-examined.

One respondent thought that the question of effectiveness may be less important than the political imperative to deploy a defensive system.

- I wonder if we haven't decided that the missile defenses are only for show anyway, so we don't care if they are effective or not. For political reasons, we want to tell the American people that they're defended against missiles. We want to tell potential enemies that we're defended against missiles as well. We are planning only three tests before the deployment decision for national missile defense. After three tests, we can't believe that we'll know either whether or not these interceptors are effective, or how effective they are. Nobody can believe that. So I've decided it must be that it doesn't matter if they're effective or not; the question is, "Do we have them?"

## Section 6.6: Implications for the ABM Treaty

**R**ESPONDENTS DIFFERED OVER THE IMPLICATIONS OF NATIONAL MISSILE defenses for the 1972 US-Soviet ABM Treaty. Some believed that the treaty should not stand in the way of the deployment of an NMD system. One common argument was that because the geopolitical environment that

existed during the Cold War no longer exists, the United States should no longer be bound by the treaty. Another was that technology was making the agreement obsolete. Others, however, felt that the United States should continue to abide by the treaty, because it remains key to continued nuclear arms reductions.

### **Modify or Scrap The ABM Treaty**

- ...the bipolar situation that existed in 1972 has obviously been altered—dramatically altered—and the ABM Treaty has been flexible in the past and can be flexible in the future. It is more in the interests of the Russians to preserve that treaty than it is in our interests, because it is that [the ABM treaty] which gives Russia a substantial status in international affairs. ... We should not allow the treaty, as interpreted or written in the past, to deflect us from putting in place, when we can do so, a modest ballistic missile defense that will protect us against small attacks.
- The strategic context within which the ABM Treaty was signed back in 1972 was so different from today that constraints on ballistic missile defense deployment, which were arguable even then, seem to me totally irrelevant. So the primary area of arms control that I am interested in is revising or abrogating the ABM Treaty so as to make possible for us and for other countries to deal with all kinds of problems that are relevant to us today.
- Our defensive programs shouldn't be impeded by any treaty. We should modify the ABM Treaty so that we can deploy a missile defense. I hope we don't overthrow it, but we should be free to develop defenses and to provide defenses to others if that's part of our strategy.
- Technology is an inevitability and a certainty. Technological progress is going to shred the ABM Treaty. Whoever occupies the presidency next time will, either by his own volition or that of Congress, dismantle the provision in the ABM Treaty which prohibits us from defending ourselves against ballistic missiles and nuclear weapons. The one simple reason is that the guys who possess these weapons are precisely the ones we worry about in terms of predictability and stability.

### **Keep The ABM Treaty Intact**

- To the extent that the ABM Treaty is a prerequisite for the START process and reductions, which it still is, then it serves our interests, particularly when we don't have a missile defense system that we know works.

- Dismantling the ABM Treaty is a mistake for three reasons. First, the ABM Treaty helped control the arms race to some degree—not a lot, but some. Second, it was the first of the big, important treaties, and so it is important in its own right. Finally, it set an international norm that we are obliged to observe. If we are lawbreakers with our own laws, that's not a good thing.
- I would want to think very carefully about the political consequences of doing that [abrogating the ABM Treaty], particularly concerning Russia. And I also would want to have much more confidence than I have now that we could actually put into the field an effective ballistic missile defense. I wouldn't want to incur all the political flak of scrapping the treaty without knowing that we will get some benefit from it.
- It's not that one just defends the ABM Treaty because it's a bible and something you have to defend. It was made for very good reasons, originally just to limit the buildup of nuclear weapons, which suddenly took a quantum leap when MIRVs were introduced and made defense seem less credible. But those basic arguments still pertain, particularly if we want...to drive offensive numbers to very low levels. So the people who are for...modifying the ABM Treaty so we can have a significant deployment, and then, as compensation, offering the Russians very deep cuts, have a logical and intellectual conflict. The Russians are not persuaded by this argument at all, but some people here have somehow persuaded themselves about it.

## Section 6.7: Responses to Deploying National Missile Defenses

**S**EVERAL RESPONDENTS PREDICTED THAT SHOULD THE US FIELD A NATIONAL missile defense system, potential adversaries would expand their offensive forces and field countermeasures, leading to an offense–defense spiral and a reinvigorated arms race. Others worried about the impact of NMD deployment on Washington's relations with Moscow and Beijing.

### Potential Offense-Defense Spiral

- While I do not oppose strategic defense, I think it can prudently enter a strategic equation only if it is done in the context of agreed management of the offensive threat. You cannot do simple unilateral injection of strategic defense without making your problem worse, because there are countries that can develop countermeasures, which will make our problems more difficult.

- Deterrence is, very simply put, the ability to retaliate in a devastating manner. If you try to counter that capability with missile defenses, then you get yourself into the classic offense–defense spiral. That’s not because there are nuclear weapons, but because the fundamental relationship is one of distrust and confrontation for potential adversarial relationships.
- I believe in the stability argument. It just seems to me that when you hear people talk about defenses and the wonderful things they’re going to do, there is always some fallacy of the last move in the advocacy of defense. In other words, we make the last move, and then things stop, and then you get a happy ending. But I believe that international politics is a competitive realm, and that there are lots of countries out there that have skills and capabilities, and have abilities to utilize resources, and that some of them can be very nasty. If you put up some whiz bang thing that will knock down the first five or ten missiles, some states out there will scratch their heads and get right back to the drawing board to add more capabilities.

## **Russian Responses**

- I know that there’s an issue that’s going to arise over NMD versus the overall nuclear relationship, but at this point I’m sufficiently skeptical about the reliability of ballistic missile defenses and sufficiently concerned about not only Russian political attitudes, but the Russian force itself, that I would be loath to poison the relationship or end it to get NMD deployed. In that trade-off, I’m still on the traditionalist side, I guess, of keeping the arms control process going and not using the exit clause that’s there, the ABM Treaty.
- The Russians are saying that if we deploy national missile defenses, they will stop all cooperation in the nuclear field. That would be a disaster. In a sense, it would do in one fell swoop what I think many conservatives in the Senate would like to do, which is to cut off all arms control cooperative efforts and just defend our own. We’ll build a big brick wall and let the rest of the world go to hell, and we’ll circle the wagons and just take care of our own. That is a very mistaken notion that puts way too much confidence in what missile defense can do for us.
- There is the unresolved problem of national missile defense deployment. The United States is being extremely foolish about this, quite frankly. We do not understand the provocation we’re giving to the Russians, in particular, by projecting such a deployment. ... They [the Russians] are seriously worried that an actual national missile deployment by the United States would be the final remaining item in a first strike capability. They know that they cannot match that in the sense

of deploying a comparable system, and they treat it as a fundamental violation of the rules of the game, so they've got both a legal problem and a strategic problem.

## Chinese Responses

- The Chinese nuclear deterrent, in the sense of a force to prevent political dominance, would be negated if the United States put up a missile defense which is capable of knocking down twenty warheads or an attack of that size. So they have to think of that in the present circumstances.
- I think we are really hitting at the heart of Chinese security in a way that we don't begin to comprehend, with disastrous consequences down the road for the central political relationship that we should be desiring. ...we have to think about the larger political cooperative aspects of this and not simply the technical aspects of this.
- I'm much more concerned that we're likely to cause problems in our strategic relationship with the Chinese by a premature move to missile defenses that won't work as well as advertised, but will work well enough to provoke the Chinese into making major sacrifices to increase their striking capabilities, than I am that reducing our offensive forces will give the Chinese an excuse to do much more than they would have otherwise done.
- If we deploy ballistic missile defenses, the Chinese are likely to react by changing their nuclear strategy and building a force that's able to penetrate the best of the defenses. Is that in our interests? I don't know.

## Section 6.8: Characterizing Group Views

### Group One

The members of Group One voiced the greatest opposition to missile defenses. They were the group least concerned about the threat to the United States from ICBMs, and they were also the most confident in deterrence through the threat of nuclear retaliation.<sup>1</sup> At the same time, members of Group One were the most skeptical regarding the effectiveness of an NMD system.

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<sup>1</sup> This seems to contradict the positions, reported in Chapter Three, that most members of Group One took regarding the past, present, and future efficacy of strategic nuclear deterrence.

They viewed the ABM Treaty as the cornerstone of arms control, and argued that it should be kept at all costs. Most believed that missile defenses are incompatible with deep reductions in offensive nuclear weapons. Indeed, they worried that NMD deployment may lead other nuclear states to deploy greater numbers of nuclear weapons in an effort to swamp the defense.

## **Group Two**

Members of Group Two also were quite skeptical about NMD, believing that the ICBM threat to the United States is quite small. While most believed that deterrence is robust, some worried about the efficacy of deterrence when dealing with so-called rogue states. Like Group One, the members of Group Two were unconvinced of the effectiveness of missile defenses, and they believed that there may be other, more cost-effective, approaches to dealing with the ballistic missile threat. Group Two, like Group One, believed that the ABM Treaty remains an important agreement that the United States should continue to observe. Some in Group Two shared Group One's view that NMD deployment would end nuclear arms reductions and would spur the deployment of additional Russian and Chinese ICBMs. Others, however, believed that characteristics of today's geopolitical environment, including American technological superiority and Russian weakness, would mute such reactions.

## **Group Three**

The members of Group Three worried that the missile threat to the United States is growing, and that the ability to strike the US homeland may give potential adversaries leverage over the United States in a future crisis or war. While they believed that deterrence is generally effective, they also felt that there are actors that cannot be deterred reliably. The group's members were split between those who shared Group One's and Two's skepticism regarding the effectiveness of NMD, and those who were more confident in the ability of technology to yield a reliable defense. The group also was split over the potential impact of deploying national missile defenses. Some shared Group One's and Group Two's view that NMD will lead to an expansion of other countries' offensive forces, while others believed that it is possible to negotiate a revision of the ABM Treaty that will permit the deployment of limited defenses.

## Group Four

Group Four was the most supportive of deploying missile defenses. They argued that the foreign ballistic missile threat is growing, and that it is the only threat against which the United States has no defense. In response to those who argued that deterrence through the threat of nuclear retaliation is reliable, some members of Group Four asserted that deterring irrational leaders and non-state groups was problematic.<sup>2</sup> They were split over the effectiveness of proposed NMD systems: some were confident in conventional interceptors; others argued that nuclear-armed interceptors will be required to ensure an effective defense. Members of Group Four were unconvinced by arguments that the deployment of NMD will trigger a Russian and Chinese offensive buildup. They argued that China is already expanding its nuclear arsenal, and that Russia will be hard-pressed merely to maintain its current force posture. Nor did they believe that the ABM Treaty should constrain NMD deployment. Most viewed the treaty as an anachronism, irrelevant to current geopolitical and technological realities.

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<sup>2</sup> This seems to contradict the positions, reported in Chapter Three, that most members of Group Four took regarding the past, present, and future efficacy of strategic nuclear deterrence.

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## **Volume II: Chapter Seven**

### **Beliefs About Nuclear Security**

**O**UR PREVIOUS RESEARCH INTO BELIEF SYSTEMS AMONG GENERAL AND elite publics indicates that individual level beliefs provide layers of filters and lenses that help shape perceptions about nuclear security. Belief systems exert powerful influences on the ways in which individuals process information and form related security policy preferences.<sup>1</sup> During our interviews with policy experts, we inquired about some of their beliefs regarding nuclear security. We asked them to assess the desirability and the feasibility of achieving a world free of all nuclear weapons. Also we asked them whether they could reconcile nuclear weapons with key American societal values and principles such as freedom and human rights. And we asked them under what conditions, if any, they could rationalize the use of US nuclear weapons. In the following three sections we present selected commentaries representing the range of beliefs expressed on these topics by our respondents. In the final section, we summarize group perspectives.

#### **Section 7.1: Conceptualizing Nuclear Abolition**

**P**ERHAPS NO BELIEFS ARE MORE CENTRAL TO ATTITUDES ABOUT NUCLEAR security than those about rationalizing nuclear weapons. Our research indicates that the question of abolishing nuclear weapons is addressed primarily from two conceptual perspectives about the future. One perspective centers on creating a fundamentally new international security order. Its proponents prescribe a path that capitalizes on the end of the Cold War to seek the elimination of nuclear weapons. The contrasting perspective holds that systemic features of the international security order are unlikely to change, and

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<sup>1</sup> For discussions of the role of political culture in attitudes and preferences about nuclear security see Herron and Jenkins-Smith, 1996. For a discussion of the role of different dimensions of personal ideology in shaping security perceptions and preferences, see Herron and Jenkins-Smith, 1998. And for illustration of the role of political ideology and policy core beliefs in attitudes about nuclear weapons and security see Volume I, Chapter Five, of this report.

therefore abandonment of the US nuclear arsenal would be foolhardy. In many cases, these perspectives may be functions of idealist and realist world views.

Regardless of one's conceptual orientation, evaluations of nuclear abolition must include two related but different dimensions. The first is *desirability*. This dimension is a function of the assumptions one makes about the nature of a nuclear weapons-free world. Would it be safer, more stable, less conflict prone? Would it decrease the risks of catastrophic conflict that might threaten human existence? Would it increase the risk of large-scale conflicts like World Wars I and II? The second dimension is the *feasibility* of nuclear abolition. Regardless of whether it may or may not be desirable, is it possible to rid the world of all nuclear weapons? If so, what are the necessary conditions? How could the absence of nuclear weapons be verified and ensured? What is to be done about the widespread knowledge that makes rebuilding nuclear weapons a continuing possibility?

Of course these are much more profound and complex issues than we could ask our respondents to address comprehensively, but we did offer the opportunity for them to comment both on the desirability and feasibility of eliminating nuclear weapons, and this section illustrates some of their views.

### **Considering the Desirability of Eliminating Nuclear Weapons**

Arguments either for eliminating *or* retaining nuclear weapons can be based both on moral convictions and practical security considerations. Nuclear abolitionists can argue that eliminating the possibility of a nuclear conflagration is a moral imperative, and that since other countries' nuclear weapons provide an offset to US conventional advantages, nuclear abolition would strengthen relative US security. Nuclear traditionalists can argue that the historical escalation in the lethality of warfare has been stopped only by the advent of weapons that make war unwinnable, and that nuclear deterrence makes possible both US national security and international stability.

#### ***Nuclear Abolition is Desirable***

None of our participants who advocated eliminating nuclear weapons chose to make their arguments solely on moral grounds, although moral convictions

presumably were an important part of their considerations. Most advocates of nuclear abolition based their rationale on two practical considerations about US security interests. First, they noted that other countries' nuclear weapons almost certainly pose the greatest—perhaps the only—risk to US survival as a political and social entity. Second, they argued that given current US advantages in economic power, technological development, and military capabilities (such as force projection, precision weaponry, and combined forces) the relative security and influence of the US would be greater in a nuclear weapons-free world. The following quotes illustrate these arguments.

- The only threat to America is from nuclear weapons, so US security would have to be better-off in a world without nuclear weapons. I can't see how as the strongest nation in the world, with the most advanced technology, we would not be better-off in a world without nuclear weapons.
- I actually don't think there is that great a difference between practicality and morality here. Nuclear weapons are extremely dangerous to the United States. It's the only thing that can massively destroy our society, and it really is tremendously in our practical interests to try to get them eliminated, to try to bring about the conditions under which that would be possible.
- It's in our interests to trade them [US nuclear weapons] away. In a world where Russia still has thousands of nuclear weapons, I don't see us ever giving them up, but they are a wasting asset. Our maintaining them, certainly in large numbers, is not in our security interests if that prevents us from reducing stockpiles elsewhere. It's in our interests to use them as a bargaining chip to reduce the threat globally, because if we get rid of nuclear weapons, we'll still be the strongest military power in the world, and nuclear weapons are the great equalizer to conventional force might, which is exactly why Iraq and Iran and North Korea want them. So why wouldn't we be doing everything we can to neutralize that? ... I'm not talking about unilaterally disarming. I'm saying that we have the ability to negotiate very low levels or elimination, and that should be something we're pursuing, because that would be in the US national security interests.
- It would be in the strategic interests of the United States, in present conditions, to eliminate nuclear weapons, because we have such unchallenged conventional superiority over everybody that nuclear weapons are the only things that can trump us, which is the reverse of the situation during the Cold War.
- Nonproliferation is not a cynical adjunct to the Cold War and keeping Russia contained. In nonproliferation, you really do believe that nuclear weapons should be eliminated. That's a central tenet to me.

- Formal deployment of nuclear weapons is not in the interest of the United States or anyone else, but particularly not in the interest of the United States. We have overwhelming capacity for large-scale conventional power projection, so we can stop any large fight we want to stop. The only thing that would compromise that is if nuclear weapons operated against us. The US—above all—is a country that should seek the elimination of nuclear weapons. I would make the same argument for any other country, but for us it's absolutely clear, and it's amazing how many people seem to be confused about it. There are a lot of people who think to the contrary. The practical problem has to do with how you do it. When I say elimination, I mean the elimination for immediately active deployment. We cannot eliminate the knowledge of how to make nuclear weapons. So, in that sense, they will always exist, and they will always exercise a deterrent effect. If you push us too much, we can make them again.
- Perpetuating a world in which nuclear possession is legitimized provides an opening to the one thing that others can use to neutralize our great conventional advantage. It's precisely American primacy and NATO primacy that others are using if not to motivate then to justify their acquisition of nuclear weapons. ... Given our enormous primacy, we would probably be better off in a world without nuclear weapons or in a world in which nuclear weapons were completely delegitimized, because...the one thing [others] can do to neutralize American military power is to get their hands on some nuclear weapons.
- As to desirability, if we could eliminate nuclear weapons with confidence, it would be desirable, because we hold all the cards in the conventional arena. That could change, and in that case I might want to get nuclear weapons back. But under current circumstances, yes, because that would increase our dominance, superiority, and immunity. As it is now, we're still vulnerable. With no nuclear weapons in the world, we're not really vulnerable to anybody.

### ***Nuclear Abolition is Not Desirable***

Those among our participants who did not consider the elimination of nuclear weapons to be a desirable goal argued three points. First, they contended that because nuclear weapons make the outcome of large-scale nuclear war unacceptably damaging to all parties, nuclear deterrence prevents conflict on the scale of World Wars I and II. This argument combines both moral rationale and security considerations. Second, they argued that because the knowledge of how to make nuclear weapons can never be erased, a nuclear weapons-free world is likely to be both unstable and brief. And third,

they expected the process of rebuilding nuclear arsenals to offer great temptations for nuclear preemption. Following are illustrative commentaries.

- We'll need nuclear [weapons] at least for strategic deterrence for an indefinite period of time to rule out the potential for all-out war. Soft power should play an increasing role, but always with military strength to back it up. The human race is just imperfect enough that we must have a strong military capability to keep humans from resorting to bad actions—high-level conflict. ... Human beings are imperfect enough that we need to hang on to nuclear deterrence for a long period of time.
- I don't think it [eliminating nuclear weapons] is desirable, and I don't think it's feasible. A nuclear weapons-free world is not desirable, because it would not last long, and our return to a nuclear world would be fraught with danger. Notwithstanding practical issues of getting to a nuclear weapons-free state, I don't think you could sustain a nuclear weapons-free world for any appreciable length of time, and the transition back to a nuclear weapons world would be far more dangerous than the normal stasis situation of being in a nuclear weapons world. Why would you have a prompt exit back to nukes? It's because we can't destroy nuclear knowledge. As long as people know that nuclear weapons exist, I find it impossible to design any situation that would outlast a crisis. If you had a crisis among nuclear disarmed states that had nuclear knowledge, I believe they would reach for nuclear weapons quickly.
- I don't want them eliminated. Eliminated is always a strong word when you have uncertainties. The Russians are relying on them more, and the Chinese are going to play with them, but it seems that the US shouldn't lead with them. They should be someplace behind the front line—way behind the front line—and not in enormous numbers in any case. I think we're playing that about right.
- [In a nuclear weapons-free world] it will be impossible to have any serious crisis without a race back to nuclear weapons. Then, what's that race like? That race is a very dangerous race in which you're going to have large windows of opportunity or vulnerability opening up. Whomever gets the jump in this race is going to say: "I got the jump, but how long will it last? Should I use this lead while I've got it?"
- We can go down further, but I don't see us giving them [nuclear weapons] up, or that it is even necessary to give them up. ... The NPT commits us to reducing. It says we'll go to zero. So, formally, we've committed ourselves to do that. Well, I think it's stupid to go to zero, and I wouldn't recommend that. ... The problem centers on the fact that we know how to make these things, and a

lot of people around the world know how to make these things. Furthermore, since you can't eliminate the knowledge of how to manufacture nuclear weapons, then you actually would be at a less stable position at zero than you would be at a hundred. So I really don't think it's feasible or practical to go down to zero. We're stuck with these things, unless some new technology shows up that trumps nuclear weapons.

- There has been a great movement...to come out in favor of the elimination of all nuclear weapons and to commit...to the realization of a nuclear weapons-free world. It sounds nice, and there have been a lot of people who have been willing to sign on. We have a list of sixty generals and admirals who produced such a manifesto. We've had the Canberra Commission that included seventeen worthies from around the world. ... A lot of the material, particularly the Canberra Report and much of the Pugwash output, is predicated on a thesis or hypothesis that nuclear weapons can serve no useful purpose other than to deter the use of nuclear weapons by other states. I don't believe this at all. Nuclear weapons have some utility, and it's demonstrable. We acquired them in the first instance during the Manhattan Project to deal with a possible German threat. Ultimately, we used them effectively to coerce the Japanese into an earlier surrender than otherwise would have been likely. ... It's an existence proof of the idea that nuclear weapons can have utility against non-nuclear states.
- Should we remain a nuclear power? Yes, without any question. Nuclear disarmament would be an extremely dangerous event. Advocates of nuclear disarmament have to confront the fact that our theories about what causes war suggest that a number of serious war causes would emerge if the world's powers ever agreed to nuclear disarmament.

## **Considering the Feasibility of Eliminating Nuclear Weapons**

Discussions about the feasibility of nuclear abolition are highly conditional. Over what period is it being considered? What kinds of political relationships are assumed? What verification technologies are envisioned? What are the projected capabilities and roles of international organizations? None of our respondents considered eliminating all nuclear weapons to be a realistic near-term policy goal. Most of those who considered abolition to be a feasible long-term goal attached a number of conditions and prerequisites to such an eventuality. Other respondents were dismissive of the possibility of nuclear abolition, or, at best, were skeptical about its prospects in the foreseeable future. Some observed that participants in this debate often do not even have the same concept in mind when discussing what abolition means. One issue

is relating the twin dimensions of desirability and feasibility. Some arguments are based primarily on desirability, while rebuttals often are based on assessments of feasibility, which results in participants talking past one another. Another impediment to useful debate has to do with evolving concepts of what “zero” nuclear weapons means. The following comments illustrate the difficulties in engaging in productive discussions about nuclear abolition.

- I see analytically that they [desirability and feasibility of nuclear abolition] are separable, but they’re inextricably linked, because if you don’t think it’s feasible, then how can it be desirable? I’ve done some work looking at the abolition debate, and the interesting thing is that, with one or two singular exceptions, even abolitionists attach question marks to the feasibility issue. And the critics...are utterly dismissive of the idea of feasibility. One of the interesting things about the debate about a nuclear weapons-free world, as it has grown less remote from the real policy debate over the last five or ten years, is that it has included a dispute about what “zero” is and what “zero” means. It has been an oblique debate in the sense that people are not going head-on—here’s my vision of zero versus your vision of zero—but if you follow the logic chains, what you find is that people are not aiming for the same end point. So you have what I call the nuclear rejectionist position: all these things are a plague on humanity; they have no value whatsoever; they serve no humane purpose; and what we want to do is rid the world of them and turn our backs on nuclear deterrence and spit on this unethical technology. Well, that’s very different from the view that you see in the National Academy report, which conceives of zero as an extreme form of de-alerting, and you’re pursuing some asymptotic curve. What you’re doing is desensitizing the nuclear balance and devaluing nuclear weapons, but you can’t eradicate the knowledge of nuclear weapons.

- There has been a lot of debate between the abolitionists and people that want a planned reduction. I think it’s a distorted debate. There’s no chance of going directly and quickly to abolition. It’s not realistic given the problems in the five nuclear states, plus, how are you going to deal with India, Pakistan, and Israel? There are so many problems there. Although some people would say we have such a complicated problem that there’s only one thing to do; we should all agree to eliminate everything and then that’s solved. I don’t think that the political systems and the military systems and the state of trust are such that that can happen. So it’s going to be a piecemeal thing. ... The difficulty of getting agreement within the US on the CTBT, which is arguably greatly to our advantage and certainly not to our disadvantage, shows the problems that we are going to have in getting to the elimination of nuclear weapons. ... I’m an incrementalist, because I don’t see how you can get from here to there any other

way. But, if the incrementalism works, it builds support and acceptance of things that would have seemed totally incredible in the past.

- If a nuclear weapons-free world is not a near-term prospect, we have to face up to the fact that whatever moves we make to try to get there are going to be, in varying degrees, helpful in the medium-term, or maybe, in some instances, not helpful at all. If this is the case, then we have got to weigh priorities about getting to a nuclear weapons-free world against the realities of having to live with nuclear weapons while we're on our way, and we may be on that way for a long time. Appeals for a nuclear weapons-free world seem to me to have been based more on the eminence of those who are willing to sign-on than on serious analytical work. We would be better off without nuclear weapons, but there are tradeoffs. There are tradeoffs both in the risks that are inherent in trying to get there, and there are tradeoffs in terms of international relations and the behavior of states if we did get there, because it would be a different world.

### ***Nuclear Abolition is Feasible***

The following quotations reflect the views of those among our participants who considered the elimination of nuclear weapons to be a feasible long-range goal. We also include the views of those respondents, some of whom were skeptics, who conceived of nuclear abolition only in the contexts of prerequisites that may or may not be likely.

- Nuclear weapons can and should be eliminated. They should be eliminated through a process of gradual, verifiable reductions and elimination of the bombs and, to a great extent, the delivery systems. How long that's going to take is difficult to tell. Should it be done in a shorter period rather than a longer period? Yes, it should take place in a short period. How will we verify the final stages in nuclear weapons elimination? I don't exactly know; I don't think anyone knows exactly, but because we don't know how to do this in the final stages, or because we don't know how we're going to achieve the broader security context does not mean that this is not an objective that we should move toward.
- I'm not talking about unilaterally disarming. I don't think anybody argues that. What I'm saying is that the United States, as the lead country in this regard, should set the objective of elimination with the expectation that everybody gets there at the same time, and that you put in place monitoring arrangements that are very hard to defeat, so that if anybody tries to regenerate nuclear weapons, they have a very substantial risk of being detected. In that case, very powerful sanctions would be brought to bear upon them—militarily if neces-



sary. What I mean by eliminating nuclear weapons is eliminating them globally in a verifiable way. I don't imagine we're going to do it otherwise.

- Abolishing them [nuclear weapons] in the next ten years is a worthy goal. Whether it's feasible in part depends on whether money is allocated to making it possible. It really depends on whether some president makes a decision that that is really critical, and devotes a significant enough fraction of the defense budget to that aim. A different kind of science would be required to a certain extent, and so there would be a lot of disappointment and resistance at the national labs. But that is a decision a president could make, and it would be a good decision. How likely do I think it is in about twenty-five years? It's not out of the realm of possibility within twenty-five years, but within ten years it is highly unlikely.

- I think it's feasible [to eliminate all nuclear weapons]; I have to concede that I don't actually think it's going to happen in the next quarter-century, but I think it would be feasible to do it, barely. The critical condition that doesn't yet exist, and has not yet been designed, is that you would have to have a robust accounting system that would establish how many are there and where are they, and how much [nuclear] material [exists]. ... If you're going to eliminate them, the first step is that you have to know how much, exactly, you eliminate. You have to get down to something like the single weapon equivalent. We're two decades away from an accounting system that would be able to do that, [because] there's a lot of historical uncertainty, so you'd have to put the system in place, and you'd have to run it for something like a couple of decades before you would gradually acquire that kind of agreed accuracy. The system isn't in place; it's not in design; it's not even talked about. So I'm going to have to say that, give us five years to figure out that we need to do this and design the system, and another twenty years to put it in place, and at that point, maybe you'd at least have the necessary conditions.

- We could reach a point where zero is fine. It can be done, but it's very difficult. We spend a lot of time trying to verify zero in countries like Iraq, Iran, North Korea, and South Africa. In these countries, verifying zero is what it's all about. You're going to have to wrestle with fundamental political, economic, and other conflicts. ... Certain types of conflict and certain types of nuclear capabilities have to be managed or eliminated before we can reach that point. We know how to get to that point. Some people believe zero can never be verified, but the methods are there to reach that point. It's a combination of access and declarations, particularly access.

- Certain things have to be done as prerequisites for elimination to make it a serious possibility. If arsenals ever get fairly small and the elimination question is seriously looked at, this topic of the prerequisites will become the cardinal is-

sue.... There's little discussion of these requirements, because the governments of the [nuclear] weapons states don't want to give away their positions, and the abolitionists are not practical enough themselves to raise these questions for discussion. But one of the requirements that I definitely see is the need for functioning democratic governments in all the [nuclear] weapons states, including China and Russia.... You've got to have assured access to every part of each of the weapons states, and you've got to have assured protection for whistle blowers and all of that. The only way in which this condition comes close to being assured is if there's a functioning democratic government. Authoritarian governments can create the initial conditions, but [they] can give absolutely no assurance as to their continuation. Also, I don't see weapons states—in particular China and Russia, possibly India—totally giving up their nuclear weapons if this means assuring the conventional dominance of the United States. ... There is another absolute requirement for eliminating nuclear weapons, and that is to have a very long period when immobilized arsenals exist, and this whole monitoring system is in place. I would want to do it for decades to see if it works. ... Of course, this scheme poses the problem, now insoluble to me, of providing a dependable protection against breakout, because I don't think the UN can do that job, even if the UN is otherwise built up for conflict prevention.

- I'd be very surprised [if all nuclear weapons could be eliminated]. You would need an evolution of global governing systems which would be very far beyond anything that I see on the horizon. To get those governing systems, you probably would need an extraordinary shift in identities, how people think of themselves. People would have to reconceptualize risk aversion, zero sum kinds of situations, so that it wouldn't look like they were losing something. Right now we, the US, would feel like we were losing something if any of this were to happen, because we have it and others don't have it. ... Whenever you're talking about taking something away, which is what you would be doing with the nuclear abolition scenario, the benefit would be the removal of a fear, not the provision of a good. That's often less compelling, particularly if you are living in a period where you're not very worried about the use of nuclear weapons.

- Thomas Schelling wrote a famous piece called "The Stability of Total Disarmament," in which he argued that zero could be highly unstable, precisely because people would be so worried about rearmament. Coming in second in that race is not so attractive if you imagine a really hostile world, so that's a serious consideration. Another variant of the Jonathan Schell argument is the kind of world government school of thought in which you posit a complete revolution in international affairs leading to the elimination of nuclear weapons. That one is even less likely. But you see people who say that we have to have world government of some sort, perhaps a UN that has this or that. I don't

find those to be very appealing visions. But what you see on the other end of the scale are some interesting ideas of virtual arsenals and virtual meaning about zero deployed nuclear weapons or zero assembled nuclear weapons. Also you find various different collections of zero—zero ballistic missiles, zero reserves, etc. And, for some people, what you find is this profusion of zeros: zero tests, zero this, zero that.

- There is a trade-off about whether or not we're going to be interveners (the world's policemen) in these instances when intervention is called for, or whether or not we are going to continue to rely on nuclear weapons. The two things are coupled. If we're going to intervene, or even bluff effectively, we will probably want a strong military, and that probably includes some nuclear capability. If we're not going to intervene; if we're going to give up on all of that, then we can probably get rid of all of our nuclear weapons. I don't think we would need any at all. ... The last line of that argument is that if you can't effectively intervene, as we demonstrably have not, then you can discount all of the intervention arguments. And if you're not going to intervene because you can't do it effectively, then why have a policy for first use of nuclear weapons or a large military establishment?
- One hundred years from now, if you tell me we have the certain ability technologically to prevent any nuclear weapon from being fired at us or detonated on American soil, and if we could deliver weapons anywhere in the world that we wanted, would I say it is desirable and practical to get rid of nuclear weapons? I'd say yes, sure, but we're not there.
- No, I don't see it [nuclear abolition]. But let me give the answer in a conditional way. *If the foreign policy that I recommend really does produce a fifty or hundred years peace, and if in that period of peace, the progress of world society and world economy and world culture is such that an essentially homogenized sense of identity emerges on the planet to the point where, without really knowing which year the decision was made, something like world governance emerges...* I can imagine nuclear weapons existing, but being under controls of some kind. Perhaps conditions in which states are generally weaker, and there are a few central security states in the world, or maybe only one, and nuclear weapons, for the most part, are locked up somewhere—maybe in one state, or maybe in four or five states—in some sort of de-alerted and monitored status. I have the capability; you have the capability. We don't really think much about war anymore, but we have these weapons just in case somebody gets too ambitious. That might be conceivable way down the road, consistent with a lot of other transformations. I don't expect it, but I allow for the possibility of it.

- It's hard to get over the dependency on nuclear weapons. Once a country has them, it's very risky to give them up. That's why there's so much effort to keep Iran and Iraq from getting them. It is hard for the United States and other members of the P5 [permanent members of the UN Security Council] to give them up. The public probably doesn't think about it that much, but among the elites there is a deep affiliation for nuclear weapons. Eliminating nuclear weapons has to be the goal. To achieve that goal, you've got to make sure that the security environment is one of peace, essentially, not filled with a lot of threatening crises or conflicts.
- I think, in theory, we'd be better off in the world with zero nuclear weapons. But that's a world that we don't have now, and I don't expect to live to see. Just when and if those conditions will pertain is very hard to say. At what point would I be willing to go to zero? Assuming everybody else said they were at zero, it depends on a very open world. It's going to be very hard to verify very small numbers, so it's going to take a great deal of either international trust or just a conclusion of the total irrelevance of the weapons in the political environment that exists at that time. And that's a long way off; that's going to take a good deal of time.

### ***Questioning the Feasibility of Nuclear Abolition***

Without completely rejecting the concept, some respondents were doubtful about the practicality and feasibility of eliminating all nuclear weapons. Others were more dismissive of the idea. Following are commentaries that raise serious questions and concerns about the feasibility of nuclear abolition within the foreseeable future.

- I'm not absolutely convinced that the conditions exist in the world which permit total elimination of nuclear weapons. I see their demobilization, deep cuts, and monitored storage as a way of reducing the dangers of deployed weapons while keeping some insurance on hand.
- I'm willing to endorse abolition as a longer-term goal, but it's one which is not achievable any time soon. In other words, there is not the mechanism in place at this point to guarantee the security of this country or other countries that could lead us to getting rid of all nuclear weapons, regardless of what other countries are doing. And politically, if we can't even get a modest test ban treaty through the United States Senate, abolition is the hope of a very small number of people, and it has no political chance of success.
- Always the problem with going to zero is this: can you be sure that everybody would go to zero? Once you go to zero yourself, even if we assume that both the

Russians and the Chinese have gone to zero, which I don't and I'm not sure I should assume, and if the Iraqis have two, then they're king. It's like being in the house of the blind; if you have one eye, then you're in good shape. So going to zero is problematic unless you can find an absolute surety that nobody will go beyond that. And I do not see that happening, and I can't visualize that kind of a situation. ... Nuclear weapons exist, and other countries are building them, and we know they can be built with not too much difficulty. So what we need is some way of achieving a parity that would keep them from being used by anybody with any sense, with any rationality left at all. And that means you can't go to zero.

- I don't see them going to zero at any time soon. They're always going to be there, but people generally realize that they are a much smaller part of the problem of stability and success in the world. ... One sees, given the whole spectrum of various countries and people in the world, that going to zero is not something that's on anybody's agenda. The focus is on how we continue to reduce, keep them under better control, make clear that they're not a first-use force.
- I have too many uncertainties about how we get there for me to say that I'm a committed abolitionist. I am a deep reductionist. I am a cooperative manager. We must be careful and must not stumble by thinking we can move unilaterally in the presence of these capabilities. ... My conception of human beings and the states in which they dwell is one that does not quite see how you eliminate force from human existence. And for that reason, I would like to see force restrained, diminished, and other mechanisms of inducing civilized behavior, but as far ahead as I can see, what I hope will be a diminished nuclear factor is probably required.
- People have an image that things are going to go a certain way, but they haven't thought about it enough. Suppose we have this situation: nobody has nuclear weapons; then, all of a sudden, a rogue state pops up with nuclear weapons, because verification is never 100 percent accurate; they have an underground centrifuge plant, etc. Suddenly, we're faced with a Saddam who has a nuclear weapon—or five nuclear weapons. The question is, can the world deal with that if the rest of the world doesn't have nuclear weapons? I don't know the answer to that. ... It's very important to talk about the end point. There are people who say: "Let's not worry about that; let's put that off; put that on the back burner and just go for smaller numbers." But I don't think we can defer that issue. I support the concept of a nuclear weapons-free world, but I'm not convinced that we've thought enough about how to make that stable.
- It [nuclear abolition] is kind of long-term wishes or beliefs versus *realpolitik* of what's possible, so I'm trying to stay on the pragmatic side and say that in the current world, although I might like something else, the reality of the situation is they [nuclear weapons] are going to remain somewhat important. ...

[but] whereas ten to fifteen years ago this [nuclear abolition] was not taken seriously; it was difficult to conceive of. But in a changed atmosphere, it can be a valid position to take. So the context of things can alter the outcome, and there is much more possibility for attainment of that once you've taken down the Cold War structure.

- You can get drastic reductions [in nuclear weapons]. You could even get some countries to give them up completely in exchange for certain benefits. But you can't get everybody everywhere to reliably give them up. Once we got close to it, people would start realizing that there's no such thing as real verification. If you're dealing with arms control agreements with the Russians, what you're concerned about is knowing whether the other side has ten thousand or ten thousand five hundred weapons, and you can have some degree of confidence in the verification. But if the issue is can you be sure that side X hasn't saved thirty or fifty of its nuclear weapons and tucked them in a warehouse somewhere, forget about it. We had unprecedented rights of inspection with UNSCOM in Iraq, and we never had confidence that we found all their bad stuff. And if all the principal countries get rid of them, smaller countries will have additional incentives to make the sacrifices to get them.

- There is an endemic reluctance, an inherent reluctance, in the American body politic to put into its defense capabilities and into its foreign policy and so forth, the level of resources—political, moral, economic—needed to compensate for the effects of nuclear deterrence when it matters. That is to say, an adversary like the Russians or the Soviets in 1947–48–49, or the Chinese in 2010. We just are not suited to putting those resources in ahead of time and sustaining them at the level that would be deterring to those powers. I guess I hadn't thought about it before, but in a kind of ironic way, nuclear weapons are perfectly democratic. They're exactly the sort of weapons democracies ought to have.

- I'm a fan of the idea [of nuclear abolition] in principle, but I respectfully disagree with those who believe it's realistic. I don't believe that you can—let me put it this way—conceive of a world where there are no sanctioned nuclear weapons, and we have given them up, and every declared nuclear power has given them up. In that world, the state or party who can quickly and clandestinely produce them is the winner. I don't believe there is any verification system we can build to ensure that we'll know about it before there is someone in the world that has a nuclear monopoly and can blackmail all the others. It is a much more stable world with minimum deterrence among a number of countries. Given that we can't verify the nonexistence of this capability somewhere, I don't think we can build a system in enough time to assure that can't be done, because there are always going to be people who will seek to have a monopoly,

if it can be had. ... Do I wish they were never invented? Yes, but now that they're here, I don't believe you can either un-invent or eliminate them.

- You can't eliminate the knowledge of how to produce these things. What we have been talking about so far entails a strong arms control orientation, obviously, but it is not a disarmament orientation. I have never seen the two fitting together. There has always been a tension between them. There can be very strong tensions between arms control and disarmament, and I rely on the arms control argument about stability. Are you more stable or not when two adversaries have a hundred nuclear weapons rather than zero? If you have a hundred, [suppose] somebody cheats, buys five more and employs them. Is that necessarily a problem militarily? Politically it might be, but you would have to push pretty hard for me to see the serious military problem. ... But if you're at zero, and somebody cheats and they get five—then yes, it matters a great deal politically, and it matters militarily.

- I have a very hard time envisioning a world in which we have completely eliminated all nuclear weapons from our arsenal. I have a very hard time envisioning how we would deal with other potential nuclear states. Like it or not, we're products of the Cold War, which decisively shaped how we think about and operate in the world. It is inconceivable that we could deal with states that possess nuclear weapons if we do not have them. I can't envision any president of the United States or any Congress, or the American people ever acquiescing to a situation like that. If you eliminate that from the realm of reasonable possibilities, we will always possess nuclear weapons. Maybe fifty or a hundred years from now, we will conclude that nuclear weapons are irrelevant, but, for now, we're too close to the Cold War. Nuclear weapons still define the limits on permissible behavior in action. I can't envision a world in which we would give up nuclear weapons, even though we could still deter people significantly with conventional military forces.

### ***Dismissing the Idea of Nuclear Abolition***

The following passages illustrate the views of some respondents who were dismissive of the concept of nuclear abolition.

- Is nuclear abolition attainable? The answer is that it is not remotely possible. The elites of the world generally understand the argument that in the land of the blind, the one-eyed man is king, and in the land of the nuclear disarmed, the state with even a tiny arsenal could dominate the world. It's widely understood that this isn't a world you want to live in. Even if there's one non-cooperating state, you can't get there from here, because at very low nuclear levels, very small nuclear forces give states enormous influence.

- You can't [eliminate nuclear weapons]. You don't know where the North Koreans have theirs. The Russians don't know where a good fraction of theirs are. You don't know what the Chinese have done. You have no idea how many the Pakistanis have squirreled away, or the Israelis, or the Saudis, or the Iranians, or the Indians—take your pick. So the answer is absolutely no. It's just ridiculous.
- It [the world] might be better [without nuclear weapons], but that's a purely academic question. Nuclear weapons are there, and they're not going to go away. Even if the weapons should go away, the knowledge of building them remains, and a world with that knowledge and with no nuclear weapons present could be a very unstable one.
- [The feasibility of eliminating nuclear weapons is] zero. Not in five years, not in ten years, not in fifty years, not ever, as long as the mind of man knows how to make these things.
- It's not feasible [to eliminate nuclear weapons]. I don't trust those other guys. I don't know that I would trust us either, frankly, if I were them.... Is it desirable? I don't run around thinking about how to use nuclear weapons, and I don't think it's a real good thing to do, but war is not a good thing to do either. ... I don't necessarily think it's desirable, but can you imagine the Cold War in which neither one of us had nuclear weapons? There would have been nothing to keep us from going to war against each other.
- [It's not feasible to eliminate nuclear weapons] in the foreseeable future. Countries just move too slowly in adjusting to changes in the world. It's not just the US, but other countries move very slowly, so the foreseeable future for me is twenty-five or thirty years, as long as I might live, and I don't see it.
- I have a hard time arguing for zero, because it's extremely important that we keep these things [nuclear weapons]. It's just as important that we keep some nuclear capability as it is to have a robust conventional weapons capability. It is as important, but for different reasons, as it was during the Cold War.
- I don't believe that if we did that [eliminated US nuclear weapons], the rest of the world would follow the example. The people who are hostile to us will still be hostile to us. They will still find ways to acquire nuclear weapons, and their ability to do so will not be affected by our decision not to have them.
- In this decade, the United States has wanted nuclear weapons to go away for a good reason, which is, if they go away, then our conventional force advantages become dominant. And they've wanted them to go away for a bad reason, because there are people who feel that nuclear weapons are loathsome, and therefore they



believe that they can be wished away. The reality though is, for the very reasons that we tended to reach for nuclear weapons, other nations are going to preserve them. ... It is wishful thinking at best and sheer folly at worst to believe that our wishing so can unmake the knowledge that the world now has about nuclear weapons. They will be on the table as long as there is turbulence in the world, and given the nature of human beings, we are likely to see turbulence for a long time.

- In a world of self-regarding nation states, even if some nation states go away or unify with others, as long as you have some number of great and medium powers in the world, they're going to be worried about security. And if they are worried about security in the sense that I think they will worry about security—sovereignty, territorial integrity, overall safety from military attack—nuclear weapons might seem very valuable. ... Given my understanding of nuclear weapons and my understanding of world politics, I don't think you're going to go to zero.

## Section 7.2: Reconciling Nuclear Weapons and US Values

**I**S THE THREATENED USE OF NUCLEAR WEAPONS COMPATIBLE WITH US VALUES and principles such as freedom, democracy, respect for individual rights, human worth, and principles of justice and equity? Are nuclear weapons morally different from other weapons of war? Do nuclear weapons threaten or protect American ideals? We asked our participants to share their perspectives of the relationships between nuclear weapons and US values. Some participants pointed to moral distinctions between using nuclear weapons to deter large-scale conflicts and using nuclear weapons to prosecute such conflicts. We reserve most comments about rationalizing the employment of US nuclear weapons for Section 7.3. Here we compare respondent perspectives about weighing moral questions associated with nuclear deterrence and American ideals.

The following quotations reflect deep reservations about reconciling nuclear weapons and American values.

- Are nuclear weapons consistent with our principles as we as a collective interpret those principles? No. Whether and to what degree they may have contributed to the furtherance of those goals and principles depends on what historical standpoint you come from and what particular historical example you pick. Arguments can be made either that nuclear weapons had a role in the demise of the Soviet Union—I would argue against a direct cause and effect relationship—but more specifically, I would say they're not consistent with our goals and values. I'd add to that by saying that the use or threat of use of nu-

clear weapons involves violation of the freedom of people in other nations. It violates their fundamental human right to exist, and the fact that we possess the capability of creating a global nuclear Armageddon is not only morally wrong, it's fundamentally inconsistent with the values that we seek to promote. The only way that nuclear weapons might be justified is in self defense, but the only reason to possess nuclear weapons for self defense is the existence of nuclear weapons elsewhere. Therefore, the solution and the obvious choice is to try to eliminate nuclear weapons.

- I wrote a piece on "no first use" in which I argued that if the bases for NATO action outside Europe in the future are humanitarian principles, how could NATO possibly use nuclear weapons to further their mission? That's why there is such a high barrier for the president to cross in the use of nuclear weapons. They simply are not an option for the president to use because of US values, and common sense too, unless and until a nuclear weapon is used against the United States. Then the barriers are down. ... Some people would argue that nuclear weapons are un-American, amoral, and immoral. While those are all true, and will have some impact on the decision by a president, the very simple argument is that the president recognizes that he will go down in history as the person who ordered the use of these weapons. That's a very heavy burden for him to consider. Independent of whether or not Americans are good guys, and whether the morality of America permits it, the president has to recognize that using nuclear weapons would be an unavoidable part of his historic record.

- There is a conflict between using nuclear weapons and the concept of just war. I believe that using nuclear weapons inherently violates our values, unless you employ them in the just war tradition. If you have a very small nuclear weapon that is guaranteed to hit the biological weapons factory in Baghdad and not kill large numbers of innocent people, then that's the nuclear weapon I'm all in favor of. But because nuclear weapons generally are inherently indiscriminate, they're inherently immoral weapons. Some people would argue that even using them as a deterrent force inherently violates the just war tradition. I'm not going to go that far, but there is a tension there, and when we used nuclear weapons against the Japanese it was an act of terrorism, because we were thinking about terrorizing the population—literally terrorizing—meaning to inculcate widespread fear. The Catholic Bishops and various philosophers have argued that the purpose of nuclear deterrence itself is immoral. I don't think I'd go that far, but it really would be fun to have an assessment of that and to attempt to be persuaded of that. At this stage, I wouldn't go that far. ...[but] the actual use of nuclear weapons certainly would violate our values. Yes, absolutely.

- [Are nuclear weapons consistent with individual rights, the sanctity of human life, self-determination?] As a deterrent force—yes. As a weapon of war—no.

- If we were able to deeply penetrate all of our minds and psyches about nuclear weapons, we would probably find that almost everyone finds them abhorrent and inherently morally problematic. We've seen how they've been used; we see what they've done. The world would perhaps have been better-off if they had never been invented, but they have been. We've never quite figured out how to get rid of them.
- It's always a tension (between nuclear weapons and American values), and it goes back to the just war arguments of the theologians and so forth. Nuclear power may give it a special edge, but it's an ongoing tension. The tension or contradiction gets worse if the enemy does not seem to pose a general comprehensive threat to human rights. The justification for me, and probably many others, during the Cold War was that the Soviet Union, based on its record of behavior before and after World War II, established probable evidence that it did pose such a threat to human rights. There was evidence in Eastern and Central Europe and evidence of the domestic matters of treatment of Soviet citizens. Is there a threat like that now? We're straining to find one, and that's what invokes references to these terrorist mass casualty attacks in the continental United States.
- Well, they [nuclear weapons] are certainly consistent with self defense, which, quite rightly, is why other nations want them. But let me put it this way: if the US is seeking restraint from other nations, it's hypocritical not to be restraining ourselves, and, in fact, restraining ourselves more than we're seeking from others, if you want true leadership on an issue. Whether nuclear weapons are immoral or not—and it always comes down to that—is a bizarre question. Is war immoral? In a sense, it doesn't matter; war exists. To me, it comes down to a basic question of US national interests and whether the US is better-off with nuclear weapons in the world or not. And I maintain that we are better-off without them, given our other advantages in other areas.
- The prospect of sheering away entire societies is immoral on its face. Other so-called weapons of mass destruction, chemical and biological weapons, have already been condemned and made the subject of international treaties banning their production and use. And yet, we still accept—even sanctify—nuclear weapons whose effects are far more destructive and persistent. Nuclear weapons are not weapons at all. They are some alien intruder on our planet whose effects transcend time and space, poisoning the earth and its inhabitants for generation upon generation.
- We keep trying to learn to live with them [nuclear weapons], manage them, control them, do this and that with them, but underneath, I suppose morally, most people, almost everyone, finds them troubling, and it's contradictory with many of the other things we say about ourselves which are the very opposite. So it's part of the human predicament now, [because it's] not just Americans

that possess them, own them, decide how to use them. Many peoples now have had to do all of that. We did it first, but we're not alone, so it's part of our global predicament to make sure they're not used.

The following comments reflect greater willingness to positively associate US nuclear weapons and American values.

- I'm utilitarian about force. My own view is that the proscription on killing noncombatants, which goes back to just war theory of the middle ages—which actually goes all the way back to the Romans—was a way of trying to proscribe gratuitous violence. The idea was that noncombatants are not the main concern. If you're killing them, it is essentially gratuitous violence you're engaging in, and you don't do that. Killing must always have a purpose, but in the crazy age of nuclear deterrence, killing noncombatants can be not at all gratuitous if it deters further violence by the other side, or even if noncombatants really are essential to the war effort in today's seamless web between the supporters of the war and combatants. I am very leery of any kind of moral doctrine which leads to greater killing than the opposite, and is it clear that a doctrine of proscription of nuclear use leads to less violence? It's very debatable. I like people not to get killed. I'm against violence, and it seems to me that nuclear threats can calm everyone down. They can keep violence from happening. If that's the way it is, then let's understand nuclear weapons as instruments of peace.
- It seems to me that this is a question of changing either the rules of the game or the attitudes. We managed to get through approximately fifty years thinking that they [nuclear weapons] were not only compatible, but ideally compatible with US values for the defense of Western Europe and for the deterrence of attack on the United States. Just because we have now become clearly the dominant conventional power in the world, the notion that moral values with regard to nuclear weapons have been transformed strikes me as a difficult proposition to absorb.
- To be a credible strategic deterrent, you've got to say, yes, it would be morally acceptable if you are really driven to use it [nuclear weapons], and you are driven only in desperate situations to use that capability, but I think it is morally acceptable.
- Nuclear weapons raise moral questions, but there are other moral questions that have to be considered too. Among these questions are ending wars, making sure wars aren't fought, keeping alliances together, making sure that we don't encourage bad behavior because people think they have some phony advantage that they shouldn't have. We are, after all, engaged in a moral project of promoting liberal self-government, and protecting that is a moral concern as well.

- A few years ago we had a meeting with some Los Alamos people who said that we can design mini-nukes, things with very limited yields that can burrow down into the ground. Although I'm very skeptical of that, it's worth considering, because our main objective is to prevent the destruction of innocent people, whether these innocent people are in the US or whether they're sitting in Baghdad. The reality is that although the people in these countries that we're worried about have mixed feelings about their regimes—some may support Saddam; many don't—they have no involvement in the decision making process there, and the idea that we would kill all these people is really abhorrent to me. If the use of nuclear weapons can play a role in preventing that, if there is a use for nuclear weapons which can deal with that threat without killing a lot of people, I would be prepared to think about that. I'm not dogmatic when it comes to saying there is no conceivable moral, ethical use for nuclear weapons. I haven't come to that, but it really needs much more discussion centering around this question.
- I don't see that nuclear weapons are inherently more evil than bows and arrows or anything else, if you're going to kill people with them. But they make war conceivably much more destructive.
- We ought to start with the proposition that we have used them twice. And you'll say, well, that's unthinkable; but wait a minute, we did use them twice in circumstances that seemed to justify it. So, for someone to say, "Well, we cannot imagine any circumstance in the future that would be like Japan in 1945; that kind of circumstance could never happen again" [is not persuasive]. Please explain how that can never happen again. It's not an easy case to argue, in my view. We can try to avoid it, but I think there are cases where nuclear weapons could be used against us or by us.
- Given precision guided munitions, given the wealth and resources of this country, I think we could win any world war that one could project over the next fifty or one hundred years, but it would be at a terrible cost. The purpose of nuclear weapons is to avoid that situation. And that to me is a highly moral purpose; I can't think of anything more moral.
- We care about the zones of peace expanding, and we have a stake in that. It's not only our zone, but the extent that it's a zone based upon certain principles about the nature of man, and nature is God, and the natural rights that are associated with it. Isn't it the Declaration of Independence that refers to the laws of nature and of nature's God? It's not just good for us, but it's good for us because it's good for other people. And people hate hearing that; they hate realizing that; but it's true. That's the reason why we are such an imperial power. It's not because we're the biggest and most powerful country, but because our regime is based on universal natural rights.

- Because the net effect of actually preventing war through this device [nuclear deterrence] is to immensely improve the prospects for all of humankind, it is a necessary evil. But I personally would feel much more comfortable, and I think our security would be more surely grounded, if we didn't have to rely, certainly to the extent we do today, on a posture that calls for mass annihilation in retaliation for mass annihilation in this country.
- Having a nuclear arsenal is no more inconsistent with our values than having a military at all. I believe that there's a human value that says I've got to protect myself, and if you believe the nation is important, you have to protect the nation and be willing to invest a certain amount of involvement. Nuclear weapons also are saying that you have to protect the world. In that sense, they are a very important part of human aspirations as well.
- When you go into a war situation, you are, by definition, coercing other people. That's what wars are. I'm arguing that American coercion can be good, and, by and large, it has been. If a nuclear weapon figures into the equation, then so be it. You hope that your nuclear weapon deters, but...it won't deter unless it's credible. You can run the risk of moral primitivism where you say that any act you take to win a war puts you in the camp of the sinners, and therefore no distinction can be made among you. That's rubbish, absolute rubbish. The United States should stand for human rights, and if that means now and then we have to fight a war, and we have to do unpleasant things to win it, so be it.

### **Section 7.3: Justifying the Employment of Nuclear Weapons**

**A**LL OUR PARTICIPANTS CONSIDERED THE PRIMARY ROLE FOR US nuclear weapons to be deterring the use of other countries' nuclear weapons. None suggested employing US nuclear weapons except in response to mass casualty attacks against the US, its military forces, or its key allies. Most restricted such considerations to responding to nuclear attack against the US homeland or US forces. Some participants considered a nuclear response to attacks in which biological or chemical weapons create large numbers of US casualties to be justified on the basis of deterring future such attacks, but those rationalizations were both cautious and conditional. For those who envisioned nuclear retaliation under some circumstances, it was justified less on retribution than on strengthening future deterrence. We have organized the following comments about nuclear employment into three categories. The first represents views of those participants who were most reluctant to justify nuclear employment under any conditions. The second category

reflects views of those who reluctantly acknowledged that nuclear retaliation for certain kinds of attacks against the US may be necessary. And the third category illustrates views of respondents who considered the credibility of nuclear employment to be crucial to preventing future mass casualty attacks.

## **Deepest Doubts About Nuclear Employment**

- There is a great aversion to using nuclear weapons in the American psyche, and those reasons have intensified over the last twenty years, especially because of the human rights movement. There is this whole argument that weapons of mass destruction are an entirely illegitimate tool of normal statecraft, because they kill the innocent. The terms of debate have changed over time. Thirty years ago, these were not the terms of debate.
- Is nuclear retribution an ethical response? The answer I usually get is that it may not be ethical, but...that's what's going to happen, because the public will demand an eye for an eye, and in the heat of this terrible toll of American lives, there will be demands that we take out a whole city, or even more. I find that to be an issue about which I'm very troubled, and I've tried to interest my community in talking more about that. It's not enough to say that if deterrence fails, we'll think about it afterward, but we don't seem to want to think about it, because even thinking about it will send a signal to potential enemies that we might not carry through. I find this very troubling, and I've been beating the drums trying to organize a meeting to talk about the ethical implications of nuclear proliferation and use.
- We have struggled mightily and have been very lucky to have a fifty-five year tradition of no use of nuclear weapons, and I would just like to keep that. I consider that exceedingly valuable, and I want to work to create the parallel norm of no use of biological weapons or chemical weapons. Obviously that's hard, because chemical weapons have been used extensively in past wars, and even some biological incidents have occurred. But just about the highest goal is to establish norms that biological, chemical, and nuclear weapons won't be used—weapons of such massive terror like that.
- I don't see a role for them [nuclear weapons] beyond deterrence. I can't imagine a future president deciding to use nuclear weapons in a tactical situation. I suppose anything is possible, but the associated political problems are too great—and it is a political issue and not a military issue—because clearly from a military standpoint, in some cases, it would be a very effective way to go. But from a political standpoint, I don't see a future president deciding to use them for tactical purposes.

- US policy has not backed away enough from nuclear weapon use. In the non-proliferation context, the US policy now is supposed to be no use of nuclear weapons against a non-nuclear weapons state unless it is allied with Russia, period. But we've seen some erosion of that policy. For example, the US reserves the right to attack with nuclear weapons should its troops, or in some cases its allies, be attacked by biological weapons. That's very dangerous in the long-term.
- It drives me back constantly to the conclusion that we have acquired capabilities that really are beyond the moral capacity of mankind, beyond our range of wisdom and capability to deal with threats that can devastate far too many people to justify their use, either by direct action or by the propensity to escalate to less constrained action. And so I come to all these problems with a conviction I didn't begin with...as a young man: there's no escaping the political responsibility to work out the restraints on an international basis. And, for that reason, the United States has not met its responsibilities satisfactorily.

### **Acknowledging Potential Conditions for Nuclear Employment**

- In anger, any government might [use nuclear weapons]. If there was a horrible biological weapons attack, and the evidence suggested it was from Iran, and the world said nothing, there would be tremendous pressure for immense retaliation. I don't know what a president may or may not do, but I don't see any situation in which our use of nuclear weapons would be rational, despite all the provocative talk of "reserving the right." Where could we use them and end up better-off?
- I cannot see using nuclear weapons in any circumstance except in response to other use of nuclear weapons. But it would be disingenuous of me to say that I absolutely rule it out under any circumstance.... I do not see now, nor can I create now, a circumstance in which I would be willing to use nuclear weapons against non-nuclear attack. But to say in time of peace what I would do actually in time of extreme danger is a meaningless statement, and I don't think diplomats should make meaningless statements. Therefore, no one should be asked to say what he will do under circumstances that one can't conceive of now.
- It's impossible to conceive of a [non-nuclear] attack against the United States that would be so profound as to cause the fundamental repulsion over the use of nuclear weapons to be overcome. I assume that if we were attacked with nuclear weapons, we would respond with nuclear weapons; but a nuclear attack against us is in that category of attacks that I regard as unlikely. Clearly, nuclear weapons will always be necessary to respond to a nuclear attack. In that way, they have a continuing utility. But considering the world in the medium-term and



considering the revulsion against the use of nuclear weapons among every US policy maker I've ever met, it's hard to see us using nuclear weapons.

- Even during the Cold War, I didn't think it was plausible that the US would ever [again] use nuclear weapons first. We had to pretend that we would, for the sake of NATO doctrine. It's conceivable that we might have used them then, especially in scenarios of heated battle and hysteria in the White House, but today it's hard to think of using them for anything other than retaliation for comparable provocation.
- Other than nuclear retaliation, the only one I've been able to come up with is the biological case. Every other case I've been able to think of, other than nuclear use in retaliation for someone's nuclear attack against US soil, does not warrant nuclear retaliation.
- Other than in a response to a nuclear or maybe even a chemical or biological attack on us, I would have to say no [the US is unlikely to use nuclear weapons]. It is easier to imagine us using nuclear weapons in response to an attack on our homeland than in response to attacks against our forces. It might happen, and we might respond with nuclear, but it would be tougher to do. Use of nuclear weapons would depend on the opponent and the extent of use; there are all kinds of things that go into the calculations. I can see us using nuclear weapons, although I have a real hard time seeing us using them first. I see nuclear weapons principally as a deterrent capability.
- I don't think that we can plausibly threaten the use of nuclear weapons today against non-nuclear weapon states for any purpose except retaliation for their use, or preempting their use. I don't think we would use them, for a number of reasons, ranging from moral and ethical considerations to practical employment limitations. If we did use them, the argument we would give to other proliferators around the world is that the US uses nukes on non-nuclear states, so they better go nuclear. The US would be lighting the fires of proliferation around the world. I can't see that nuclear weapons play any useful role in the day-to-day, tit-for-tat quarrels we have with the Milosevics, or Noreigas, or Ayatollahs of the world.
- We don't have an offensive biological capability, and no one is advocating that we obtain one. But if we were to get into the tens or hundreds of thousands of casualties, people would start thinking in terms of what signal can I send to stop this, or to say no more and simply to punish, and that's where you get the link. I believe the link really is between the biological and the nuclear. On one hand, you have people saying that if you had a successful biological use there would be no conventional response that would be proportionate, and that a nuclear response is warranted. On the other hand, you have many people on the arms control side arguing that we can

never respond with nuclear weapons against a non-nuclear threat, or even an attack. But, because of biological weapons, I don't think we can say that.

- Except in retaliation for the use of a nuclear weapon against the United States or its troops, I have a hard time envisioning the use of nuclear weapons.
- If chemical or biological weapons are used as part of state-level military conflict—for example, if Iraq should use chemical weapons—then we ought to consider the use of nuclear weapons in response.

### **Nuclear Employment May Be Necessary**

- We can sit here and say we're not going to use nuclear weapons first, but it's a lot of nonsense. We're not going to use nuclear weapons first against innocent states, but if someone has been ruthless enough and somehow clever enough to really do some grievous damage to the United States, no one's going to care about a treaty. No one's going to care about the future of a treaty. People are going to care about two things: exacting revenge and putting a marker down so that a whole bunch of other idiots don't believe that America is fair game. That's the most important reason to retaliate. Revenge is only the emotional energy. The most important reason to retaliate in a world with widely distributed technologies that can do great damage is that you can't afford to have a reputation that people can slap you around and get away with it. ... We have to restore deterrence; that's the reason to retaliate.
- If we have to wait awhile to figure out the return address, then we will wait. But people shouldn't be under any illusions about the implications of waiting. The idea is foolish that cooler heads are going to prevail as we find more corpses, as we see the effects of biological weapons on people, as we have the funerals for the people who died of radiation sickness—and we're going to get cooler? The American people's desire to retaliate is going to diminish? I don't think so.
- The United States follows a policy of nonproliferation by at least hinting that it is prepared to protect non-nuclear states against the assaults of nuclear states. If we are hinting that, and if we are creating obligations among those nations that refrain from acquiring nuclear weapons, then we have a moral issue of whether we are going to fulfill our implied obligations or not. By and large, we should be prepared to respond to the use of nuclear weapons by others. In addition, whether or not it was wise to embark on a rhetorical position that we will respond to weapons of mass destruction other than nuclear by a nuclear response, we do not have either chemical or biological weapons, and some of those kinds of attacks may be serious enough to merit a nuclear response.

- Just because it is a biological scenario doesn't necessarily mean that nuclear response is appropriate. But if we're in a situation where we're taking enormous casualties, and it appears we are going to lose, and we need to do something dramatic to stop and recast the situation, we might think about nuclear use. Because whatever the reluctance to even go there, if people really perceive that the costs are becoming unbearable, and you risk not being able to achieve the basic objectives in the whole effort, that's when people tend to resort to the nuclear option.
- If another country used weapons of mass destruction on us, we probably would be very, very tempted to use weapons of mass destruction on them, regardless of whether people are paying attention or not, regardless of whether they grasp the general principle, the temptation would be very great. We're not going to the UN and ask for authorization to use a nuclear weapon on some country, because they're not going to give it to us. We're not going to ask anybody; it's not that kind of decision; we're just going to make it unilaterally.
- One of the big unknowns is what the shift in political sentiment, both popular and elite, in the United States or in other countries would be the day after somebody else uses nuclear weapons. ... If Americans are killed by some sort of large-scale terrorist attack, or certainly a nuclear attack, the impulse to respond emotionally would change the political landscape. Whether or not it would be a good thing to do or a bad thing to do would be an interesting debate. But it would become much more plausible that we would decide to teach the world at large a rather unforgettable lesson: if you do this sort of thing to the United States, it will be the end of the world for you. If nuclear weapons are used against friends of the United States, against the Israelis most plausibly, they would respond themselves, but we might also.
- It goes back to strategic considerations. Reputation is important, and if you show that you're an easy target, and if you don't do what you said you would do, then the temptation for others to exploit that perceived weakness would be too high.

## Section 7.4: Characterizing Group Views

**G**ROUP VIEWS WERE HIGHLY DIFFERENTIATED ABOUT THE DESIRABILITY of a nuclear weapons-free world. Differences among groups about the feasibility of eliminating all nuclear weapons were much less pronounced, with most participants agreeing that nuclear abolition is not feasible in the foreseeable future, and that its prospects depend on many prerequisites that may be difficult to achieve. Group views about the compatibility of nuclear security and key US values were split by whether respondents em-

phasized the use of nuclear weapons for deterring or for prosecuting war. As to the actual employment of US nuclear weapons, views were mixed. While a high degree of agreement existed across groups that the primary role of US nuclear weapons is to deter the use of nuclear weapons by other countries, divisions were much deeper about what kinds of circumstances might warrant US nuclear retaliation.

### **Group One**

Group One participants were the strongest advocates of nuclear abolition, with all but one member considering the elimination of nuclear weapons to be desirable, and six of the nine members considering it feasible. Their rationale included both moral convictions and security considerations, arguing that only nuclear weapons can threaten the security and survival of the United States. Group One members also perceived the greatest incompatibility between US nuclear weapons and key societal values, considering the destructive potential of nuclear weapons to be immoral. And members of this group were least willing to justify the use of nuclear weapons for any purpose other than deterring other nuclear weapons.

### **Group Two**

Nine of the fifteen members of Group Two considered it to be a desirable long-range goal to eliminate all nuclear weapons, but only two of the group's members considered nuclear abolition to be feasible, and then only if significant evolutionary changes in the international system can be realized. Most members expressed strong reservations about reconciling US values with nuclear weapons, and most could do so only within the context of using nuclear weapons for deterrence. Few could envision any circumstances other than a nuclear attack against the United States that would justify employing US nuclear weapons, and some were opposed to a nuclear response even under those conditions.

### **Group Three**

Of Group Three's sixteen members, two considered the abolition of nuclear weapons to be desirable, but none considered it feasible. Most thought that, if ever achieved, nuclear abolition would be unsustainable. While several

members saw problematic connections between US nuclear weapons and American values, most reconciled them by arguing that US nuclear weapons help guarantee the kind of security from large-scale conflict that allows human rights and individual freedom to grow throughout the world. Most group members were hesitant to rationalize the employment of nuclear weapons for anything other than the most severe attacks with mass casualty weapons against US citizens or military forces.

#### **Group Four**

None of the ten members of Group Four considered the elimination of nuclear weapons either to be desirable or feasible. Each thought that if such a condition was ever achieved, it would be highly unstable, and that the inevitable return to nuclear weapons would be very dangerous. Most perceived US nuclear weapons as protective of US values, and nuclear deterrence was considered the primary condition for preventing large-scale conflicts like World Wars I and II. Though group members were hesitant to rationalize the employment of US nuclear weapons for anything other than deterrence, most considered carefully tailored nuclear retaliation to mass casualty attacks against the US, its forces, or its key allies to be an important option for reestablishing conditions of deterrence.

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## **Volume II: Chapter Eight**

### **Elite Views of the Public and Nuclear Security**

This chapter describes the perspectives of the policy experts we interviewed about the role of the general public in the evolution of security policy.<sup>1</sup> Actual public views may or may not correspond with the elite *perceptions* of mass opinion reported here.

Since the end of the Cold War, two important dynamics have been interacting to influence the role of the public in US security policy. First, some of the secrecy and restricted access to information about US nuclear weapons, military forces, and strategic policies that characterized the Cold War have been relaxed. Concurrently, explosive growth in the Internet and information technologies and growing numbers of interest groups and other nongovernmental organizations (NGOs) have substantially broadened access to data about nuclear security resources and policies. Second, the international security environment has changed profoundly, opening for reconsideration many of the security relationships and requirements of the Cold War era while providing new opportunities that invite debate about the future of nuclear security.

Do these changes suggest a different role for the general public in determining US security policies? Will evolving conditions stimulate greater public involvement, or does the post-Cold War security environment mean that the public can afford to pay less attention and be less involved in security policy processes? How do these changing conditions influence the traditional role of policy elites? If US nuclear forces and infrastructures are to be substantially modified, what role should the American public have in those processes?

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<sup>1</sup> This chapter does *not* report what the US general public thinks about nuclear security. For our measurements of evolving views of security among the general public, refer to Volume I of this report and to our earlier studies in this series. See Jenkins-Smith, Barke, and Herron, 1994; Herron and Jenkins-Smith, 1996, and Herron and Jenkins-Smith, 1998.

We were especially interested in our respondents' views about three key aspects of the public's functions in these processes: (a) the roles the general public has traditionally played in shaping nuclear security policies; (b) the capacity for the general public to contribute to security policy debates; and (c) the preferred roles for the general public in the future evolution of nuclear security policies. The first three sections of this chapter address these issues, and the final section comments on group views.

## **Section 8.1: Traditional Role of the Public in Nuclear Security Policy**

Affording citizens opportunities to participate in matters of national security are among the most difficult policy requirements for open societies. The primary tension is between the need to allow citizens to take part in the development of policies for their collective security and the need to protect sensitive information that may be integral to reliably providing that security. The resulting tension makes this area one of the most challenging domains of public policy. Within the broader framework of national security, matters relating to *nuclear* security are among the most sensitive and restricted. The development and implementation of nuclear security policies is further complicated by the highly specialized nature of the associated technologies and the international contexts in which they are employed.

Nuclear weaponry originated in wartime within the confines of the Manhattan Project, one of the most restricted and secretive programs in American history. Then during the Cold War years, US nuclear forces, postures, and their supporting infrastructures were managed with concern for preventing their details from being acquired by US adversaries. Individual members of the general public who wanted to be well-informed about nuclear security policies could gain access to considerable amounts of information if they were generally knowledgeable about the policy processes and determined to become better informed. But for most Americans, nuclear security policy largely was left to the experts and the policy makers. The general public did become more involved in a selected range of nuclear issues such as the so called "missile gap" of the 1960 elections, atmospheric nuclear testing, the Cuban missile crisis, the ABM Treaty, the neutron bomb, the strategic defense initiative, and several other policy debates.



But a community of policy elites specializing in nuclear security grew to be much more knowledgeable than most Americans about US strategic planning, nuclear force structures and postures, and the management of related programs. While this also is true for most complex policy domains, in some of those other policy areas members of the public have personal or family experiences that add to their understanding. For example, most adult Americans have firsthand experience with health care policies, and most families have had experience with education and social security policies. But classification restrictions on information about nuclear security, combined with its technical nature, mean that most Americans have relatively little, if any, personal experiences relevant to nuclear weapons policies, and the gap between general public knowledge and expert knowledge about nuclear security may be one of the largest among all policy domains.

In this section, we asked fifty members of today's security policy community to share their perspectives about the traditional role of the US general public as it relates to nuclear security and the relationships between the roles of the general public, policy elites, and the news media.

## **Role of the General Public at Large**

When not acting from within organized interest groups, do individual members of the general public participate in security policy processes much the same way they do in other policy areas? Do they attempt to influence policy makers about nuclear security issues, or do they tend to leave such matters to elected representatives? What does the American public expect of its policy makers in terms of nuclear security programs? We asked our participants to assess the role of the general public during the Cold War era, and to comment on their perceptions of public interest and participation in security policy processes today.

### ***During the Cold War***

- Most of the policy was constructed outside of direct public involvement during the Cold War, and it continues that way. The public supported a lot of things that were done in the armaments area with the public being genuinely afraid of the Soviet Union and supportive of US military planning. ... Public fear of nuclear weapons was very high in the late fifties and early sixties and that ultimately led to Kennedy going to the Partial Test Ban [Treaty] because

there was so much public outcry. ... There was a lot of public concern and indignation over the big tests in the Pacific when the full significance of fallout was first recognized. The people in the government were very concerned. Eisenhower became tremendously concerned about it, and I think all presidents were concerned. To what extent they were reacting to the public or themselves, I'm not sure. But there was a lot of public debate [and] academic debate during the late fifties and sixties about these issues.

- I'm not sure how great the public influence was on nuclear issues even during the height of the Cold War. By and large, the debates that occurred on nuclear weapons issues such as SALT I, SALT II, START, and various other agreements, was the debate of the policy elites. The elites included the members of Congress and the executive branch and a few groups here in Washington who care about such matters, such as the Brookings Institution, the Council on Foreign Relations, the Heritage Foundation, the Cato institute—those sorts of groups. Those are the groups that interacted and had an influence on nuclear policy before, and that is probably even truer today, only today we just keep going over the previous ground.
- During the Cold War, the public had a deep and abiding interest in nuclear issues, because they were fearful, particularly during crises, that the whole society would go up in smoke. They did not, however, have a say in policy making other than establishing bounds on permissible action for the political leadership. The guidance [from the public] was: "Don't use nuclear weapons unless there is a compelling reason for doing so, and don't engage in nuclear disarmament if that will make us hostage to other states." The threat has changed now, fortunately. Once, we defined the space between those two domains as a foot apart; now, we've moved them hundreds of yards apart. No one is even thinking about it. The bounds probably still exist, but they're no longer salient.
- ...I do think we got the public engaged over a number of issues during the Cold War. It's not my impression that the secrecy over nuclear weapons meant that the public couldn't be informed. I don't think you have to know how a nuclear weapon is designed to know what choices we're making as a country, and to participate in that debate. ... I thought, even then, that the Pentagon was releasing very good information as part of its annual reports about the levels that we were talking about in START, and what those levels translated to. ...we were pretty clear about that; that was no big secret from the public. The publication *Arms Control Today* was really good at explaining what those things meant, and anybody who cared could have had access to plenty of information about those things. I do agree that there was secrecy. There was secrecy about things that had to be secret, but I don't think that things were so secret that you couldn't make an informed policy choice as a US citizen.

- ...in the late Carter and early Reagan administrations, these issues were highly visible and prominent, and the public was engaged in the United States, and that pretty much was the story over the 1980s. After the INF treaty and the START treaty, and the collapse of the Soviet Union, the public seems to have tuned out to being actively aware of the situation. We all lead busy lives [and] there's only so much that you can commit yourself to. But the public, in all sorts of measures—the journalists who cover it, the amount of time that it's given on television, courses taught in universities, groups like ours and others...the funding community giving money—all of these things are down from where they were a decade or more ago.
- One of the only places the public really had a play was with the ABM debate. And that was because when we talked about a city-based ABM, people were talking about putting these things close enough to cities that they said: "Gee, I like the idea of protecting the country, but, on the other hand, I really don't want one of these in my backyard." And that energized enough people to essentially force us out of that basing concept. So the public had a role in that particular policy decision. The public is generally supportive of broad national security, but I'm not sure, looking ahead, whether they will play that much of a role in policy evolution.
- People really did fear nuclear war; that was the reason the freeze movement came about. ... But if you no longer feel personally threatened, then it's hard to pay much attention. It's hard for someone living their life to think about Iraq if Iraq is not threatening us. Part of the non-concern is that no one has come up with a reason why the public should be concerned.
- If it becomes a major issue and engages public attention, they probably understand the basics well enough. The arcane debates of the Cold War were probably not well understood. There were some purposes for which that level of debate was necessary, but most people can get the basic idea of deterrence. They're not likely to do so unless their noses are rubbed in it, and they're forced to really think it out, and that seldom happens, even during the Cold War. But it's not a public issue now. It's something that only elites pay attention to, and that's only a fraction of the elites that used to pay attention to it.
- I'm not sure that the public really wants to play a much larger role in the details. During the Cold War we went to excesses in trying to classify things and keep them secret. Since that time, in some respects, we've gone in the opposite direction, and we're reaping some of the consequences of that. ... We seriously overdid secrecy during the Cold War, and to some extent, it was right to try to correct that as much as the Energy Department can. ... There are things that are legitimately classified, but trying to withhold information in this day and age with the Freedom of Information Act is really kind of a fruitless exercise any-

way. ... My attitude would be to decide those things that really are sensitive to our national security, protect those assiduously, and let the public, to the extent they're interested, share in the rest.

- Do you remember the neutron bomb? The public apparently did have a role there. The public probably has a role in terms of setting the broad agenda or setting limits on what direction we take. ...my guess is that the public is probably not so enthusiastic about nuclear weapons. It's not that they want to give them up, but they probably don't want to build more. And that general mood is probably reflected to some extent in policy.

### ***Perceived Level of Public Interest and Involvement Today***

Almost all of our participants thought that public interest in security issues—particularly nuclear security—has declined substantially since the Cold War period. Regardless of the philosophical perspective of the respondent, the overall consensus was that the American public today has relegated security issues in general, and *nuclear* security policy in particular, to background priority. Most thought that this is because the end of the Cold War appears to have reduced the likelihood of serious nuclear confrontation, and because the US is seen by most members of the public to be preeminent in power and influence today. The following quotes illustrate how our respondents characterized current levels of public interest in security issues.

- Public interest in national security and foreign policy issues has substantially diminished in the last ten years. Second, even when we have the support, broadly speaking, as exemplified by the Comprehensive Test Ban Treaty, that doesn't mean people will cast votes on that basis or care intensely enough to try and affect the opinion of members of Congress. ... How you stand on gun control will affect whether you will be reelected. And abortion is an issue about which people care very intensely and will organize, be politically active, contribute, and vote. That intrinsic feeling is simply not true on almost any of the foreign policy and national security issues, especially nuclear weapons. That means that decisions are largely going to be made by these policy elites, based on a variety of factors, and not simply public opinion.
- The public is less engaged in nuclear issues now than it was twenty or forty years ago. There is no compelling reason for them to be engaged now. If the public wants to be engaged, they certainly can. What they'll find out is that most of the factors that made nuclear weapons and deterrence salient during the Cold

War no longer exist. Now we're in a very different world. The American people have always demonstrated a pretty high degree of savvy. When something is important, they focus on it; when it's not, they tune it out. The public has tuned nuclear weapons out; and indeed, so has the American military. Nuclear issues are remarkably low in salience and importance to the American military.

- I have a hard time envisioning a world in which nuclear weapons [will] become more salient. In a hostile world, information warfare, defensive technology, and other kinds of technologies and options are more interesting. In a highly public, salient sense, the nuclear age is gone, and that's a good thing. It's gone not because of some structural or theoretical constraint on nuclear weapons, but because nuclear weapons derive their power, authority and credibility from intensely hostile political relationships. When you take that away, nuclear weapons fade in importance.
- The likelihood of serious nuclear exchange has receded substantially, at least temporarily; therefore, the need for the public to focus on it is less than it was during the Cold War. ... In a democracy, or in this particular democracy, foreign policy wells up from below. ...most of these so-called threats in this more fluid world do not strike the public as really threatening to us. The public is prepared to invest something or other in international humanitarian ventures, so long as it doesn't cost very much, particularly in terms of casualties. At the present time, the public's attitude is to let the so-called foreign policy elites do what they please, so long as we don't get into real trouble....
- It would be really nice if the public could have more of an impact on security policy. I think they should, but I don't know how to make that happen. These issues are important; they're not cheap, and the public should get a better understanding of them, but they're fairly arcane. As we move further and further away from World War II and the Cold War, the potential for a World War III drifts away. It gets harder to keep the public involved. You certainly think they should have an input, but it should be an educated input, and we're not educating them when it comes right down to it. What we need are educated leaders to start with. If we can't educate the leaders, it's very hard to reach the public. It makes it so difficult for the public to figure it out by themselves, even though I think their instincts would come up with the right answers most of the time.
- ...I don't think that the public is very interested in either sizing or siting the nuclear forces of the United States. The public is prepared to allow that to be decided by the military authorities, whether in uniform or out. Others would like to absorb the public in support of their particular hobbyhorses. The public, by and large, is prepared not to become absorbed, because they are much more interested in economic well-being and other such things. Attempts to arouse the pub-

lic to become engaged because a group of people happens to have a particular hobbyhorse does not seem to me to justify repeatedly prodding the public. By and large, the public is quite happy with overall trends regarding national security policy and has little desire to get deeply involved.

- One of the problems with the end of the Cold War is that the public does not pay attention to arms control issues anymore, and that, to a large degree, explains the vote [on the CTBT] that we saw. ... The public role in arms control and national security issues has declined precipitously, based on the fact that their concerns are now more local—economics, schools, [etc.]. It's not national security; it's not foreign policy; and so politicians on the left and on the right can afford to ignore the issues in a way they couldn't before. Or they can afford to vote the wrong way—wrong in the sense that it's against the public opinion polls.
- ...the US and world publics are not impressed with the dangers of nuclear weapons. The public assumes that since the Cold War is over, all of the dangers associated with nuclear weapons in the Cold War context are gone except for those referred to by the administration in the rogue nation and terrorism context. This possible threat has got some people excited, but not the general public.
- Today...there is less concern about the threat of nuclear war. There is an increasing concern about nuclear proliferation of various kinds. So until such time as the concern of the public for and about these issues increases, there's not going to be a great deal more public input or activism than we're seeing now. The one factor that can change this lack of immediacy is if policy makers make this an issue, and it's an area that many policy makers are not making an issue, because they don't think that the public cares about it. So it's an interesting Catch 22. ...the only thing that's going to change the current lack of a sense of immediacy about this issue is for the political leadership to address it in a much more direct and serious fashion, or until such time that we might, unfortunately, have some sort of disaster.
- If you had something that asked, "What's the saliency of any of this?" all the foreign policy issues have very low saliency, and all the defense issues have very low saliency. I don't think anything is going to change that, because the environment's pretty secure, and the public gets it. They think: "I don't have to tend to that; there's no problem." ...the danger here is that if you get into a sudden threat environment because you didn't act preventively, then the question of American public support will become a problem.
- ...there will be a lot less public interest in and attention to nuclear weapons until something goes wrong. On the other hand, every instinct of people, not only in our own government, but in every other government that has nuclear weapons, will be to let sleeping dogs lie. In a sense, this is one of the main

forces existing today for conservatism. The last thing in the world that people in power want to do right now is to invite public debates about nuclear weapons. I also think that will be true for the foreseeable future....

- I feel as though the overall global security situation is vastly better than this wound-up, wired globe that we had not long ago; I suppose maybe that's the way the public feels too. They don't feel the intensity with which they were faced when they decided to really sit down and think about it; much of that has gone away. And so maybe in their democratic wisdom they've made the right choices, and there are other things in their lives that they're more concerned with.

- ...we're now more than a generation into the all-volunteer force. The first-hand exposure to military life and military operations among the population is becoming focused on a narrower and narrower segment of the electorate, and, indeed, a narrower sector of our political leadership. With that comes, obviously, an ignorance of military operations and therefore less ability for the public to participate meaningfully in debate, but second also is a willingness at some level to defer to professionals on these issues. While information is more accessible through the Internet, and NGOs have become more involved, most of the population recognizes that this isn't something they do or think about frequently. When it actually comes to employing military forces in combat, the public defers to the Pentagon and national security decision makers.

- One of the problems of having moved to this multipolar world with a much more diffuse array of threats is that it's hard for the American public to feel that there's any significant threat out there. And I just don't think they're interested in the issues.

- I am not sure that there is not a public role if the public wants a role, but de-facto, there is not much of a public role, because the public is not interested in this stuff. They are not interested in defense all that much generally. ... The economy is strong, and if that continues to be the case, people are happy. Currently, there are no significant conflicts around the world. Even though we are engaged in all kinds of operations, people do not care. ... I'm not sure that they're even aware of it, as far as I can tell. And if they are, it's just noise on the side. And the nuclear dimension of this is almost invisible to most people, just like most people don't know that we don't have a national missile defense. Most people don't know anything about our nuclear posture.

## Role of Interest Groups and Other Nongovernmental Organizations

One of the ways in which citizens attempt to exert more influence on policy processes is to form associations that share certain policy goals. The role of interest groups has grown exponentially in the past several decades in all policy areas. They are supplemented by various foundations and other NGOs that serve to organize and mobilize grassroots support and provide increasingly sophisticated technical assessments of security policy options. Several of our participants held leadership roles in NGOs and alliances whose purposes were to provide information about selected security issues and to advocate specific policies. We asked all our participants to provide their impressions and interpretations of the roles that such organizations play in helping to bring collective weight to the views of individual members of the public. Also, we asked them to assess the influence such groups have on security policy processes, especially nuclear security policy.

- NGOs and organizations of various kinds representing various views have developed greatly in the past years, and I don't see that their existence will decline. The UN counted something like five hundred NGOs in the late 1950s and something like twenty-two thousand that are accredited to them today. It's a worldwide phenomenon. ... Here in the US, the idea of permanent, active groups that inform themselves and take positions and know the decision makers personally and collar them and confront them with views is a phenomenon that I don't see as decreasing in importance. ... In practice, of course, the populace is participating in the form of these NGOs, whether or not it's a good idea. All the NGOs think it's a good idea and will doubtless continue to. They see themselves as carrying out the democratic process. ... They're representing what they consider the public interests. But they don't have a commitment to take an accurate cross section of public views and reproduce them.
- Most of the people who provided the initial and subsequent thinking for our deterrent and our strategy during the Cold War have moved on to other things, are retired, or have died. ... The truth is we don't have a lot of people thinking about things nuclear, and to some degree it's been left for the single-interest groups. ... There is no special constituency for focusing narrowly on the nuclear question other than in the antinuclear community, because that's where the nonprofit money is. So that's why they're preoccupied, and they have aligned themselves with political organizers who see this as a wedge issue. It's really an amazing thing to watch. By contrast, government is more diverse and focused elsewhere. DoD is off being busy with other things. But even those who came out of the nu-



clear community are off doing cooperative threat reduction, South Asia, nonproliferation, technology diffusion, globalization issues, and a lot of other things.

- There is very little presidential or elite attention to these problems, and a lot of it tends to come from special interest groups on the extreme right. They get regular satisfaction out of it, but I'm not sure how much impact they really have on a broader [scale]. So, we have [our organization has] a lot of work to do, and it's going to continue. In a sense, the better things get, the more difficult it is going to be.

- A lot of money has been spent by foundations and NGOs trying to change people's minds, and I'm not sure it's been terribly successful. At this point, you have to judge it a flat failure.

- Because of the end of the Cold War, there is less public and academic attention to this [nonproliferation]. To a certain extent, the problems of nonproliferation have become a matter of interest to regional specialists and to scholars in the field. But there's probably less interest and less attention in the public area now than there was in the past. One of the problems of the NGO community is to try and stimulate some level of informed interest in these problems. ... The big problem for the NGO community is to be sure the press continues with these issues. ... People who have their own organizations, as in our case, need to stimulate some public interest at the grassroots level and try to get more and better public press coverage. ... As for discussion of strategy and deterrence, nuclear policy in general is not a matter of interest to most people. To some extent, it was much more so during the height of the Cold War when a lot of people really thought there was going to be a nuclear war.

- The challenge for people like me who try to play inside the policy process and do what we do for a living here is to let the public know what the hell is going on and see if we can't find ways to get that common sense injected into the system, because, frankly, it's the only hope. Absent that kind of countervailing force, I believe we will pursue policies that we are well along in: of denuclearizing the country, of preserving its vulnerability to nuclear attack, and leaving it essentially undefended against chemical or biological attacks as well.

- Our [organization's] agenda... is to help create a more coherent, comprehensive nuclear weapons reduction and nonproliferation strategy. That begins with finishing the job of the START II and START III treaties... moving on to multilateral nuclear elimination discussions with other countries, finalizing the CTBT, limiting access to and stopping further production of fissile materials, and pursuing a wise missile defense policy—basically one that does not promote the development of offensive capabilities. That's the basic agenda. It's

primarily US-focused, [although] it does have strong connections to what's happening in other countries, and it's really a midterm agenda...by design.

## Role of Policy Elites

We did not ask our participants, all of whom can be considered security policy "elites," to assess the roles that they play in the evolution of specific policies. But in the course of discussing their views about the public and relationships between the general public and security policy makers, some respondents volunteered the following perspectives on the roles of security policy experts.

- The American public does not expect to have to come up with the answers to these problems; that is why they pay the American government. What the American defense establishment ought to think about is not what the American people want now, but what the American people would expect the United States military to be able to do when problems actually arise. The American people don't have the job of sitting around and thinking about all the bad things that could happen. That's why people like you and me get paid. It's not the American people who are shortsighted; it's the American defense establishment, because they take short-term public opinion as the guide for their long-term action. But the American people expect them to have a long-term view and to think about the kinds of things the public does not think about. The American public is more permissive than generally thought. The problem is the political elites who compete for power by taking demagogic positions on nuclear weapons. The American people don't want to think about national security right now, because we are in a peacetime environment. But that's not the issue. They expect the government to be prepared.
- The elites who pay attention, who make their living in defense policy, people like us, they'll always maintain at least a minimal level of interest in the question [of nuclear security], even if it doesn't take up as large a portion of their working day as it once did. Otherwise, the answer for the elites may be the same as for the public. Unless we get to the point where it looks like there's a danger that these things [nuclear weapons] might be used, many people will need some kind of incentive to think seriously about strategic issues.
- Those people who cared about these nuclear weapons questions were always a small number, and that number is even smaller today. So those arguments for massive nuclear deterrence, or getting rid of all nuclear weapons, or smaller nuclear deterrence, are heard from a bandbox full of people arguing with each other. But most of the American public doesn't give a damn.

## Role of the News Media

The role of the news media in security policy processes also was not a line of inquiry for our research purposes. But some respondents volunteered their perspectives about the role popular media sources play in providing information to the public about nuclear security. Most of the observations were critical of media understanding and reporting of important security policy issues.

- The big problem is getting the complete story to the American public, and frankly, I have problems with the popular media in that they don't do a good job at that. They give them [members of the public] a one-sided story in short sound bites that tries to simplify everything. ... Apparently, the popular media, and by that I mean the TV networks and many of the newspapers, don't have a high regard for the American public. I believe they think the American public is not capable of understanding complex issues. That's wrong, and it's a disservice to the American public.
- The media regards itself as being part of the decision making process and can therefore determine when national security decisions made by the government are mistaken, silly, or misguided. As a consequence, the public loses confidence in the ability of the executive to do what needs to be done. That's a very severe problem, and it's just going to get worse.
- It [public involvement in security policy] is likely to be less prominent, merely because the issues are not strong enough to engage the average American citizen. What seems to engage them more and more is the way the press covers things. I think the press is probably a pernicious influence, especially in areas where there are human rights or democratic violations, because the press whips up public enthusiasm for intervention. But as soon as force starts to be used, then the press takes the opposite point of view and interviews all the mothers, saying: "Why do you think your son or daughter is out there exposing himself or herself to death for a bunch of people who don't seem to care about it themselves?" ...and the public, to some extent, responds to the way the press handles it. If you left the media out, I would be quite relaxed...about the judgment of the American people; it's pretty sound. But they don't follow some security issues closely, especially now, so it's easy to put stories out that inflame them.
- I was very struck by what I perceived in the Kosovo war to be a nearly binary interest on the part of the public once the [Columbine High School] shootings happened. I was watching the news and went home that day, and suddenly every newsperson who was in Albania packed their bags and flew to Colorado to interview high school students. And I think the American public

just stopped being very interested in what the day before was a crusade to stop genocide. The next day the focus was how you stop kids from getting guns.

- I feel that the public used to care more than they do now. And I've come around to the point of view that I actually don't know whether the public cares or not. What I notice is that the *press* doesn't seem to care, and more and more I see articles about defense matters that seem to be just copied from the Defense Department's web site. I feel as though we've lost the thread to having a press that's critical and intelligent and challenges the conventional wisdom on any matters that have to do with defense, including nuclear weapons. And that makes it hard for us to have a public debate.

## **Section 8.2: Public Capacity to Understand and Participate**

Seeking to explore the gap in technical understanding of complex nuclear security issues between the general public and policy experts, we asked our participants to comment on the degree to which they thought the general public as a whole can understand and contribute to policy processes. Most shared the view that the public has the capacity to learn about the issues and to contribute importantly to security policy processes, but many were skeptical of the public's willingness to do so in the absence of threatening environments or high profile events that serve to catalyze interest. We group relevant comments into those indicating doubts about the public's understanding and contributions to security policy processes and those expressing greater confidence in the efficacy of public participation.

### **Reservations About Public Capacities**

- The general public is at an enormous disadvantage in trying to form intelligent opinions on this subject. Even those inside observers who follow it closely are frustrated, and often wrong about what has happened and is happening. This is the most arcane, secretive, complicated, and mythical arena that you could possibly imagine. In order to have a sense of its scope, culture, and consequence, you really need to be a player. But, even saying that, many players discovered they had only one leg of the elephant; they had no idea what the entire beast looked like. I speak to many public audiences, and what I have learned is that few have even a rudimentary understanding of nuclear issues. Most don't know the difference between an atom bomb and a hydrogen bomb, much less what their respective effects are. Much of what they think they know is wrong; their visceral be-

liefs are rooted in mythology or extremely simplistic assumptions about the role of nuclear weapons in the Cold War. Many of them are astonished to learn that we still have nuclear weapons in such large numbers, that they are still postured in high states of launch readiness, and that we don't have an ABM system. They know virtually nothing about what's happening in Russia. They have a little sense about other nuclear nations, but not in any coherent framework.

- I don't think the public has an interest, and I don't think they have the capacity. In general, the public provides broad guidelines in national security and lets the president and Congress deal with that within that realm. It's when the president violates the broad consensus, as Lyndon Johnson did in the Vietnam War, where the public reacts strongly. ... But, by and large, the public neither has the interest nor the capacity to interact in these issues nor to shape these issues beyond overall consensus.

- People don't necessarily perceive risk rationally. There are good reasons for that. The American public is sensitive to the fears generated by nuclear questions, but I don't see much interest in the solutions. They also are sensitive to the suffering of people. ... Certainly, you can arouse public opinion if there's immense suffering. But that can actually work against a nonproliferation solution, because it sets a clock ticking, making it hard to keep a certain type of pressure on Iraq, for example. In general, we don't [our organization doesn't] find much interest or impact of the public on the things we work on. Our reaction, along with many groups' reactions, is to focus more on the people of influence. We try to influence those people, in this country and abroad, to get certain things done. But we do wish that the American public was more involved in this. We always work in the media to try to raise people's level of knowledge about these issues and to lay out options. We rarely advocate, but we would like to see a certain set of outcomes developed and implemented.

- I really don't think much of the public fully understands that we have these large-scale mass attack operations pretty much coupled in the way they were during the Cold War. I think they think that the Russian and the United States confrontation, if you will, has been diminished or scaled down in operational terms much more than it actually has changed. Yes, they're concerned about the terrorist threat, but they don't see, and I don't think they appreciate, that these two forces are out there every day doing active, rapidly responsive deterrence in pretty much the same way we've always done.

- Most of the public, even people who should know better, like to believe that somehow nuclear weapons went away, because we have said that we're reducing these forces, so they must be gone. And even people who've had some exposure do not grasp that we're still running the Cold War operation essentially unchanged. ...

That is unwise and dangerous and particularly unnecessary now, but until the public engages in this and makes a different judgment, it's going to go on. They need to understand that they are physically threatened by this, and that we have to wake up. The kinds of policy changes that we require are not going to happen until there is much more extensive and deeper public appreciation. How you get that, how you accomplish that—I spend a lot of time worrying about that actually.

- Is the public capable of having an in-depth discussion on the details of all this? Of course not; they shouldn't be; they pay us to do that, whether we work for private foundations or government contractors or the government itself. ... The capacity is fairly high to understand the general principles when people treat them like adults. They understand things, and it tends to be when the elite...has failed to explain to them what the objectives are [and] why we are doing things, that you tend to get confusion out there. Presidents have tended to get very good support for bold foreign policy initiatives. Now, is it slow and cumbersome? Yes, it is. ... You asked me did the public have the capacity to understand. Yes, they do, but someone needs to explain. You can't expect them to be sitting in their local public library doing research on it. When it affects them, they'll start getting into it.
- There's an egregious set of misreadings of public attitudes by the foreign policy establishment. There is disdain for the public, a belief that they don't know anything. The answer is [that] they know what they need to know, and they do have very enduring orientations toward the world. ... Most people had a deterrence frame for this [the Cold War], and when the Soviet threat went away, the problem went away. So, getting public attention for something like Nunn-Lugar is very difficult. The public doesn't know anything about any of that, because its frame for the nuclear problem was a malevolent country that intended to attack us. Now that frame has gone away, and the public doesn't have another frame, so there's going to be tremendous inattention to it.

## **Confidence in Public Capacities**

- I'm a great believer in the value of the common sense of the American public when the American public is well-informed. There are just so many examples in history where that worked, and so many other examples in history where the leadership decided not to do that, and it didn't work out well. I believe that public education and informed public debate on all sides of the issues is essential. ... So, to the extent that the government has not encouraged, facilitated, participated in a much broader, much better informed public debate, that causes lots of problems. Now, fortunately, there are all these forcing functions that make this happen, sooner or later. ... If it takes place in the Congress, that's

pretty public. ...there is a general need to keep the public informed and interested in the demands of national security. And I know of no time when it has been more important than right now, because the public really does not understand that we live in a more complex and more dangerous national security situation, in terms of what we have to deal with—far more complex and far more dangerous than we did during the Cold War.

- As a good small “d” democrat, I think the capacity [of the public] is pretty high provided that the government acts responsibly and provides the kind of information that publics need. When they do, very often the debates are chaotic, but at the end of the day, public instincts in most areas have been pretty sound. The public is not particularly engaged in a lot of these issues, and sometimes I actually regret that. It may sometimes make the life of people in our field easier, but it’s a problem in the long run, because when they do get engaged, it’s generally for the better. While it may not produce precisely my ideal outcome, nevertheless, it’s usually not a stupid outcome, and it’s a politically sustainable outcome.
- With regard to large-scale issues, the ability of the United States public to understand is pretty good. During the Cold War, hawks like me tended to complain about the American body politic not providing sufficient levels of support to the American military. But they spent 5 to 10 percent of the American GNP for a period of fifty years. Maybe the world would have been somewhat safer if we had spent more, but it was not an unreasonable effort.
- They [members of the public] are capable of handling a bigger piece, and they should have a bigger piece. We need to spark a public debate about defense and the defense budget. When the public is engaged, they’re very smart. They know what they like, and they know what they want. They know what’s important to them, and if you get some amount of decent, critical press coverage, you can get the public engaged. The more people who think about these things, the more people who care about them and voice their opinions, the better off we are as a country. Because that’s what makes democracy great—hearing a range of views and letting people speak up. So I do think it’s a good thing.
- The American public has a pretty good sense of what the stakes are in most cases, develops a pretty good sense of the prospects for success, and has a fairly good sense of how long something is going to drag out. In forming these assessments, the public depends on what they perceive to be either a consensus or a lack of consensus among policy elites, Republicans and Democrats in Congress and the White House, and the attitude of the media. They pick up the right lessons from consensus or from the lack of consensus in the debate among the policy elites and in the Congress and the executive branch. If it sounds like I’m giving the public a lot of credit, essentially I do.

- You have to frame it in the broad strokes. Do you value this, or this? Is it worth some possible slight risk in confidence about US nuclear weapons to ensure that others do not develop sophisticated weapons? Things like that are needed to frame it truthfully and accurately. You just can't get into the nitty-gritty details, because the public is primarily giving out gut responses to those issues. ... It's that common sense, that sort of reality check, that is actually very important inside the beltway here.
- My sense is that they [members of the general public] are pretty sound, the freeze movement notwithstanding, which came and went very quickly. Again, it's a matter of leadership and determination. You don't have to be excessive and reckless in your rhetoric, but you do have to be clear and unequivocal. And as long as the objectives for which the weaponry is maintained are in accord with the deeper sense of propriety the public has, then they will accept the weaponry.

### **Section 8.3: Elite Preferences About the Role of the General Public**

Having heard our participants' assessments of the traditional role of the American public in security policy processes and their judgments about the general capacities of the public to understand and contribute to such processes, we asked them what role they thought the public *should* play in this area of policy. Would they like to see the public participate in debates about the future evolution of nuclear security? Most respondents expressed a desire for greater public interest and involvement, but some preferred the public's role to be one of vesting the authority in elected policy makers and trusting their judgments about these kinds of issues. Two groups of views emerged: one preferred a more populist approach to public participation, and the other preferred a more delegated approach in which the judgments of elected officials predominate.

#### **Preferences for Populist Participation**

- It [public participation] has to change, fundamentally, if we are going to solve these problems. These problems are not going to get resolved exclusively with conversations of this sort, no matter how many of them there would be. The public is going to have to get much more seriously engaged in order to go through the fundamental changes in policy that are required to create a safer situation. It's a vital matter that the public get productively involved, which means that they really come to understand the issues, they work through them, make their own



judgments, understand the realities in technically and strategically accurate terms. There's no substitute for that, and we've got a real problem in that regard.

- Today, in the aggregate, the American population is better educated, more widely traveled, more diverse in terms of ties and relations with the "abroad," and more knowledgeable about the environment than it has been historically. The business community is more knowledgeable about foreign affairs. The general competence of the public (I don't mean everybody in the public) is higher than it's ever been, which is not to say necessarily that it's really high in the absolute sense. When you put together the competency increase with the historically established moderating tendency, it's a pretty good trend. If we ignore it, we would be hurting ourselves, and we would be missing something very important, particularly in an era when it's more tempting to exploit international security matters for short-term political advantage than it was during the Cold War when we were really scared. We're in better shape to provide constructive policy, and it's really important because of all these temptations to do what are, in international terms and public national interest terms, very short-sighted [actions]. ... I've seen more bizarreness in some of the things that float out of Washington than I see in public opinion.

- I hope the general public has a role. ... To the extent that arms control or nuclear policy or, more generally, national security policy is allowed to be a hot-house exercise for an elite that thinks of itself as superior to the rest of the country because they live inside of Washington's beltway or Boston's beltway or somebody else's beltway, you deny participation to people who bring to bear what is the single most important ingredient—common sense.

- I'm a big believer that you want to involve the public in security discourse. European elites always take the opposite approach. They "childrenize" European politics, and they don't have broad public discussions of security affairs, at least they didn't during the Cold War. They don't have a lot of university courses on security affairs. In this country, you can go to a lot of universities and take good classes on defense policy. ... It's much better to give the public the opportunity to be informed. No more than 5 or 10 percent of the public are ever going to really want to be well-informed about security and foreign policies, but if people want to be informed, they should have the option. ... Today, we may be experiencing a modest decline in public attention to security policy issues, but we remain a significantly more internationalized country than we were before 1945. The media still are covering world affairs better and much more energetically than we did in the old days, and the public knows more about world affairs. ... We're going to have less public attention at times, but not zero.

- Anyone who values democratic discourse would like to have fuller public awareness of problems of this magnitude, and I do not condescend to think that only the “experts” know how to deal with these issues. There are some philosophical issues, some moral issues, and some points of political wisdom that can appropriately be considered at the public level. In fact, one of the problems we’ve had for many years has been an excessively closed universe dealing with the nuclear issues. We’ve needed wider public discussion. However, my main worry is related to the linkage between the public and the decisions that are taken on this range of issues. And that linkage lies critically in the Congress. We are a representative republic, and it seems to me that what the public is entitled to is...as much information as can be made available. Not only [are they] entitled to participate and make their views known by every mechanism of public debate...but they are also entitled to the Burkean expectation of their representatives. Namely, that the members of the Congress will attend closely to these issues as the representatives of a public that cannot possibly engage in all the levels of detail that arise in this subject area.

- There’s all this stuff out there. Some of it is information, and some of it is garbage. It is a big signal to noise problem. The public eventually sets the boundaries of what goes on in American politics. Along the way, the boundaries are ones as perceived and interpreted by people who track the public, and as they [the public] want it to be. What you see if you look longitudinally at American public opinion, is that it’s pretty good—not pretty bad. In effect, it curbs extremes. ... It’s regression to the mean, and that’s not so bad at all.

## **Preferences for Delegated Participation**

- The public is capable of playing an intelligent role in nuclear policy issues primarily through their elected representatives in Congress. Throughout the Cold War, they did just that in a rough way. Much of the public view on nuclear weapons stems from visceral feelings, as it does in most other areas of public policy. For those of us who want our leaders to be more concerned about maintaining an adequate nuclear posture, it would be illusory to believe the public will play any role in those arcane details. You can’t expect the public to be any more understanding or active in nuclear weapons affairs than they are on other complex subjects, such as economics, how to deal with poverty, or how to deal with inner cities. ... When you get beyond visceral instincts as to what makes this country powerful, and you get into expert details about which there can be legitimate and endless debate, that’s where the public is not going to play that strong of a role. But, having said that, there’s probably some intermediate level at which it’s worth trying to educate and to influence the opinion of the people

who get called “opinion makers” these days—journalists, columnists, and the like—because that does affect the way congressmen cast their votes.

- The broad public is kind of bored and disinterested in the whole thing now. My tendency is to trust the representative democracy model where we elect leaders who do have the time and the inclination to dig into these issues and try to come up with appropriate policies, and I trust that form of government in this area. If you get into economic issues that John Q. Public is intensely aware of, then I tend to trust John Q. Public’s judgment in those areas. But I don’t know if the public could judge whether we should share some kind of security information with Russia. ... Clearly there are people among the general public, perhaps even including you and me, that do stay somewhat current in these issues and should write and publish and talk and do whatever they want, but if you were to run an election on whether we should share nuclear secrets with the Germans, I’m not sure I would trust the results of that election. ... If you can get the general public interested and up to speed, then I do tend to trust the public. The public has a collective sense of right and wrong that is maybe better than the politicians’.

- I certainly don’t think that a public referendum by itself would necessarily come up with a right answer. ... I don’t believe in developing policy based on polls. And in my view of recent history—say going back thirty or forty years—our biggest problem is...the lack of political leadership and statesmanship whereby the elected officials feel it’s their responsibility to understand the problems in-depth and to have thought through principled positions. Also, they should go out and explain those positions to their constituents and their publics to educate them and to gain support for what they feel is the right way to go, rather than simply going out and getting a poll as to what people want, with no leadership or education role.

- The public should play an important role in establishing the basic guidelines for use [of nuclear weapons]. A president better have a sense of how the public would react to particular kinds of use before he ever confronts the actual situation where a decision has to be made. The kinds of general questions that you’ve been asking: “Is there any situation where you can imagine using nuclear weapons in other than retaliation for nuclear use?” “Could they be used in retaliation against biological use or chemical use or conventional use?” “What are those circumstances under which you could justify nuclear use?” That kind of general feel for the public pulse in a democracy is very important. It is very important particularly in our society that that sort of general will is understood and appreciated. So asking the “what use” and “under what circumstances” types of questions is a way of getting them involved. On the other hand, the “hows” and “what targets and timelines” and particular situations, then, no.

- It's more important for the American people to have a discussion about, and develop an awareness of, what our strategic goals and objectives should be. What do we want to achieve? Where do we want to go as a nation? What do we think the threats are to our security interests? Then let the elected officials determine how we're going to deal with that in terms of the details of the force structure. A public debate over whether you're going to have a W88 warhead or something else doesn't even make any sense. Now, certainly a lot of these things like neutron bombs can get politicized and brought into the public debate, and in many cases it affects what we end up doing. That's going to happen; that's just the nature of the beast. But should there be an increased role for the American people to debate this? I just don't think it's sensible.
- The American people do not expect to have to become masters of professional detail. The emotional nature of nuclear weapons makes them quite different from other weapons. You have to deal with this very bimodal distribution of public opinion: people who are quite terrified of nuclear weapons in general, because of their perceived destructive capabilities; and those people like me who thought of nuclear weapons as being extremely useful, and therefore worth spending a lot of time and effort to develop.
- ...nuclear weapons have become this arcane arena, and nonproliferation is this arcane arena, and arms control is this arcane arena, and foreign affairs has even become this arcane arena. And nobody gets what is going on, not only what the relations between these things are and how they should relate, but also what the big picture is and why they should care. And if you don't have that, none of these things are going to make a whole lot of sense.
- The public has a role, but it's awfully hard to believe that it can be based on sophisticated understanding. ... It's the case for a republican form of government, rather than a democratic form. You have to have at least a hope that people in the Senate and the House and the president will be able to do a better job in dealing with tough complex problems than somebody you just pick from off the street. There has to be some acceptance that not everything is best decided at a town meeting, although that is a way to get the public involved. You have to rely on experts to some degree; and at least try to make sure that we have a group of experts...who make good, or, at least, informed decisions. There has to be some cadre of people in any society who are informed enough that they can take these problems on and hopefully do a better job than deciding by a coin flip.

## Recognizing the Challenges of Facilitating Public Participation

- Anytime you are operating in a democratic system, you have to assume that the public is going to have enough sense to know how to handle not only local affairs, but even international affairs. The best operating system is one that works on an informed public. In the past twenty years we have discovered in the United States that the public is very much more sensible than the politicians. ... Generally speaking, people are pretty sensible. It's going to be difficult to make sure that they are well-informed about these matters, partially because the government doesn't want to inform them. The elite wants to take the action themselves, yet the people vote for their representatives, and they ought to demand accountability.
- It's one of the things I always rail about and talk about, and that is the obligation of the citizen in a democracy now is to be sufficiently literate about the issues that they can be intelligent voters. The obligation of a university is to provide an education that makes them literate. Now "literate" doesn't mean knowing how a bomb works, but it means understanding general principles and, particularly, risks. It's this horrible bogey that anything with the word "nuclear" in it is an unacceptable risk that has a lot to do with our inability to handle nuclear waste and causes us to do silly things.
- Risk aversion or risk allergy to anything nuclear is a problem [that is] illustrative of one of the main difficulties of running a democratic society. When a government loses credibility in any area, it almost never gets it back. We lost credibility in the nuclear area, because in the early days we said there is no problem from fallout, and we had the people building the bomb also responsible for protecting you from fallout from tests in the atmosphere. There were claims made about nuclear power that weren't true, and we lost a certain credibility in our society when the government speaks on nuclear matters. We're paying a terrible price for it, and it's part of the reason that governments have to guard their credibility, and the educational process has got to do a better job of making a scientifically literate population—not a physicist; not a chemist; not a biologist, but somebody who understands and can judge the risks in qualitative ways. ... You need a literate elite connected to a semiliterate elite, to a semiliterate semi-elite, and so forth, because there are layers in a society, and people learn who to trust.

### Section 8.4: Characterizing Group Views

The views of our policy experts about the role of the public in security policy processes cannot effectively be contrasted based on group membership. None

of our fifty respondents thought that the US public should be excluded from security policy processes. Indeed, it would hard to imagine *any* member of the security policy community who would support excluding public participation. Whether advocating the complete elimination of all nuclear weapons or arguing for continued reliance on traditional nuclear security—or various intermediate policy positions—public involvement and support was a shared objective that was independent of group association or the type of policies advocated.

Another shared perspective was that in today's policy environment, public disinterest in nuclear security issues was widespread. Most of our participants thought that the saliency of nuclear security issues had declined precipitously since the end of the Cold War, and that public awareness of current nuclear forces, alert postures, stockpile management, nuclear arms control, and most other related nuclear security policy issues was disturbingly low. Those respondents who were affiliated with interest groups or other NGOs, regardless of their policy objectives, considered it much more important to expend their resources and efforts in attempts to help shape and influence the views and positions of other policy elites, opinion leaders, and policy makers rather than members of the public at large. Though many pursued these kinds of strategies as normal operations, regardless of prevailing public moods, some apparently were doing so at least partially because of what they perceived as current public apathy about nuclear security.

These shared perspectives produced concern among some participants that lack of public interest and understanding was hindering their policy goals while helping the goals of policy opponents. For example, some members of Groups One and Two feared that lack of public understanding of a stagnated arms control process and continuing high states of nuclear alert were contributing to the inertia against changes such as reducing what they considered to be unnecessarily high force levels and dangerous alert postures. From the opposite perspective, some members of Groups Three and Four were concerned that lack of public understanding about the implications of proliferation of nuclear weapons and missile delivery systems was contributing to what they perceived to be increasing US vulnerabilities. So while all four groups shared the view that the public should be better informed and more involved, they sought public involvement in the service of very different policy objectives.

One dimension that was not issue dependent divided participants' views about the preferred roles for the public in evolving future security policies.

The difference was in the degree to which and the methods by which respondents preferred public participation to be effected. All respondents agreed that few members of the public have the necessary knowledge and experience to participate in detailed decisions about technical aspects of security policy, and none of our participants advocated using referendum type mechanisms for decision making, nor did they want policy makers to depend too heavily on opinion polls in deciding policy choices. But some preferred that the public have a more direct and participatory role in shaping policy. Advocates of such approaches noted that the American public has been influential in some previous security policy debates, and they expressed a preference for more frequent and more active public involvement in future decisions about key security policies such as missile defenses. Their preference was for increased interest group activities, focused lobbying, public demonstrations, and other efforts to organize and express public views on important security issues. These respondents were concerned about what they perceived as a growing disconnect between the public and their elected officials on matters of security. They cited the contrast between amply documented strong public support for the CTBT and Senate rejection of the treaty as one example of how some elected officials can disregard public preferences about some security issues without fear of the implications for reelection. In general, this group of respondents shared a somewhat more populist preference for the public's role in security policy processes.

Another group of respondents favored a model of public participation that emphasized delegating responsibilities for security policy decisions to policy experts and elected officials. These participants expressed strong confidence in the collective judgment of the American public in broad matters of principle and for setting overall directions for security policies. But they were more cautious about the public's ability to understand the complexities and implications of security issues—especially the arcane nature of nuclear security policy. They considered the representative model of government to be better suited to this policy domain, and preferred that members of the general public act through their elected representatives to express their views and preferences. They argued that American citizens expect their elected officials to become sufficiently knowledgeable about such technical matters that they can act on behalf of their constituents without depending on individual citizens actively engaging in policy processes. They held that since members of the public can focus only on a limited number of issues at any one time, they should not be expected to become sufficiently knowledgeable about most

nuclear security matters to effectively participate, and that what they perceived as current public apathy about nuclear matters illustrated how members of the public, in fact, were choosing not to actively engage in nuclear security policy processes.



## **Volume II: Chapter Nine**

### **Comparing Mass and Elite Perspectives**

**A**MERICAN NUCLEAR WEAPONS FORCES ORIGINATED DURING THE COURSE of World War II. Over the following four decades, US nuclear security policies evolved during the Cold War, perhaps the most comprehensive ideological struggle in modern history. Evolving nuclear security policy in the post-Cold War era presents qualitatively different challenges and opportunities than all our cumulative nuclear experiences, because the contemporary security environment allows policy debate and change without the exigencies of either intense physical or ideological conflict. As a result, today's environment is unique in the evolution of nuclear security policy.

Developing stable and coherent US nuclear security policies for the 21<sup>st</sup> century requires that policy makers consider not only expert analyses of requirements, capabilities, and available resources, but also the need for greater public understanding and participation at multiple levels. Absent attention to central patterns of beliefs and preferences among policy elites *and* the broader public, security policies can be overly vulnerable to the vicissitudes of changing events or administrations. More generally, policy processes can benefit from better insights into how mass and elite publics form opinions and preferences about nuclear security. In this final chapter we summarize and compare some of the views of our respondents from the general public and from policy experts, and we discuss relationships between mass and elite publics.

#### **Section 9.1: Comparing Expectations About Publics**

**M**EMBERS OF "ELITE" POLICY COMMUNITIES ARE EXPECTED TO MASTER policy-relevant factual knowledge, have better understanding of important policy relationships, and express more thoroughly reasoned policy preferences than mass publics. Also, they are expected to exhibit tightly connected and bounded belief systems that integrate core beliefs, policy

core beliefs, perceptions, and policy preferences.<sup>1</sup> Policy elites are expected to contribute to debates and to attempt to influence policies. Often they are referred to as “opinion leaders,” implying that their views are influential in shaping policy preferences among peers and broader publics. There are specialists even among policy experts who are expected to bring different dimensions of expertise to policy debates, and who may lead or influence opinions about different portions of a debate. For example, scientists and others with technical training may bring insights about technological aspects of nuclear security policies. Religious and other spiritual leaders may enrich moral considerations associated with policy choices. And policy generalists like those we interviewed for this project may bring in-depth understandings of policy processes, historical contexts, and connections among issues that help others evaluate policy options.

Most members of mass publics without specialized training or experience in nuclear security issues are not expected to have levels of factual knowledge and understanding of critical policy components comparable to those of more specialized policy elites. Because of the arcane nature of some nuclear security issues and restrictions on the dissemination of information about them, members of the general public traditionally have been expected to participate in nuclear security policy processes primarily through their elected officials. In some instances involving popular movements, however, the public has more directly influenced security policy debates.

These kinds of distinctions in expectations about the roles of elite and mass publics are not unique to nuclear security policy, but contrasts between these publics may have been drawn even more sharply than in most policy domains because of three factors. First, many nuclear security issues are technically complex, and evaluating some types of relevant data requires specialized expertise. Second, requirements for secrecy that are associated with nuclear weapons and related policies have traditionally restricted access to important kinds of information. And third, unlike many other policy areas, few citizens have personal or family experiences closely related to nuclear security policy. As a result, the differential or “knowledge gap” about nuclear security issues between mass and elite publics may be larger than in some other areas of public policy.

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<sup>1</sup> According to the advocacy coalition framework for policy analysis, core beliefs are deeply held values reflecting fundamental normative and ontological axioms. Core beliefs, such as political ideology, are highly resistant to change. Policy core beliefs reflect fundamental policy positions concerning the basic strategies for achieving the normative axioms associated with core beliefs. For a more detailed discussion, see Sabatier and Jenkins-Smith, 1993.

Do these distinctions mean that mass publics form opinions about nuclear security issues differently and base their policy preferences on different foundations than do policy experts? Does the knowledge gap between elite and mass publics mean that they view policy options sufficiently differently to reach different preferences? Are there systematic relationships among elite and mass communities, such as shared belief systems, that are important for the evolution of nuclear security policy? Can the expert who understands a policy subsystem in intricate detail and the member of the general public with broader and more superficial impressions about nuclear security *both* contribute importantly to policy processes? Is the apparently low salience currently accorded to nuclear security issues by the general public reflective of public *valuation* of nuclear weapons? The cumulative data from our ongoing research provides insights into these questions.

## **Section 9.2: Characterizing Mass and Elite Views**

**I**N VOLUME I WE REPORT THE RESULTS OF CLUSTER ANALYSIS OF MEMBERS from the US general public who participated in our 1999 survey. In Volume II we discuss the results of cluster analysis of the fifty security policy experts who provided in-depth interviews to our research team in 1999–2000. The resulting groupings provide the comparative patterns summarized below.

### **Characterizing Patterns of Views Among the General Public**

As reported in more detail in Volume I, Chapter Seven, we employed  $n$ -dimensional large group cluster analysis using equally weighted composite measures of perceptions of external and domestic nuclear weapons risks and benefits as the clustering variables. The hierarchical agglomeration method and within-group average linking yielded four clusters of respondents from the general public exhibiting similar intragroup opinions and well differentiated intergroup perspectives. We compare the views of each group in the following summary descriptions.

### ***Public Group One***

Thirty percent of respondents were members of Public Group One.<sup>2</sup> They were the youngest, highest educated, earned the highest incomes, were the most politically liberal, and were the strongest supporters of nuclear abolition of any of our public groups. About 53 percent were men. On average, members reported the lowest perceptions of nuclear weapons risks and benefits, supported the deepest reductions in the US nuclear arsenal, rated the importance of retaining US nuclear weapons lowest, and reported the lowest support for spending on nuclear infrastructure issues. Also, they expressed the lowest support for building a national missile defense system, and were the least supportive of nuclear retaliation for a nuclear attack on the US. Among the four public clusters, Group One was the most critical of traditional concepts of deterrence-based nuclear security, and they constituted a polar opposite position to members of Public Group Four.

### ***Public Group Two***

Public Group Two constituted 35 percent of respondents.<sup>3</sup> Two out of three members of this group were women. Members were the second youngest, the least educated, earned the lowest incomes, were the second most politically liberal, and were the second most supportive of nuclear abolition. They rated domestic risks of US nuclear weapons substantially higher than any other group, and they rated external risks second highest. They rated the external benefits of US nuclear weapons second lowest, but rated domestic benefits second highest. Participants supported the second deepest reductions in US nuclear weapons, rated the importance of retaining US nuclear weapons second lowest, reported the second lowest support for spending on maintaining the nuclear arsenal and for nuclear infrastructure, expressed the second lowest support for building national missile defenses, and were the second least supportive of nuclear retaliation for a nuclear attack on the US. Among the

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<sup>2</sup> Because the nuclear risk and benefit indices used to cluster our sample from the general public are composite aggregations of mean responses to multiple questions, failure to answer any one of the component questions eliminated a respondent from inclusion in the cluster analysis. After 178 nonresponses were excluded, 1,305 respondents were clustered into the four groups. For a discussion of the clustering process for the general public, see Volume I, Chapter Seven.

<sup>3</sup> Ibid.

four public clusters, Group Two was the second most critical of traditional concepts of nuclear security.

### ***Public Group Three***

Nineteen percent of respondents were in Public Group Three, and slightly more than half were men (54 percent).<sup>4</sup> On average, members of this group were the second oldest, had the second highest level of education and income, tied with Group Four for the most politically conservative views, and were second most opposed to nuclear abolition. They perceived the highest mean external nuclear weapons risks, the second highest domestic risks and external benefits, and the second lowest domestic benefits. The group preferred the second highest levels for the US nuclear arsenal, rated the importance of retaining nuclear weapons second highest, and provided the second highest levels of support for funding to maintain and sustain the US nuclear arsenal and related infrastructures. Furthermore, members were the second most supportive of building national missile defenses, and were the second most willing to employ nuclear weapons to retaliate for a nuclear attack against the US. Among our four public clusters, Group Three was the second most supportive of traditional notions of nuclear security.

### ***Public Group Four***

Members of Public Group Four constituted 16 percent of respondents.<sup>5</sup> They were the oldest, had the second lowest level of education and earned the second lowest incomes. They tied with Public Group Three as the most politically conservative, and were the most opposed to nuclear abolition. About 53 percent were men. On average, they rated external and domestic nuclear risks second lowest and external and domestic nuclear benefits highest among all four public groups. They preferred the largest number of US nuclear weapons and rated the importance of retaining them higher than any other public group. They were the most supportive of spending to maintain the existing arsenal and for investments in infrastructure that would allow the US to develop and improve nuclear weapons in the future. Also, members reported the highest levels of support for building a national missile defense system, and they were the most supportive of

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<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

nuclear retaliation for a nuclear attack on the US. Among our four public clusters, members of Group Four were the most supportive of traditional deterrence-based concepts of nuclear security, and they constituted a polar opposite position to Public Group One.

## **Characterizing Patterns of Views Among Policy Elites**

As discussed in Volume II, Chapter One and Appendix One, we clustered our fifty policy experts who participated in personal interviews based on two independent ratings of five equally weighted variables: (1) desirability of nuclear abolition; (2) feasibility of nuclear abolition in the foreseeable future; (3) the utility of US nuclear weapons; (4) the efficacy of nuclear deterrence; and (5) the degree to which US security considerations should be integrated with those of other states in the international community. We combined clusters using the single linkage technique (also known as nearest neighbor) and within group average linking. We identified the following four clusters.

### ***Elite Group One***

Members of Elite Group One viewed today's security environment from a world community perspective that was sensitive to implications of US nuclear policies for other countries, and they emphasized the importance of international organizations and norms. They viewed nuclear weapons as the primary threat to the security of the US, and they considered the risks of nuclear weapons to far exceed any benefits. All but one member considered nuclear abolition to be desirable, and six of the nine members thought it was feasible within the foreseeable future. Members thought that continuing to rely on nuclear weapons for national security was an important impetus to nuclear proliferation, and they strongly supported the nonproliferation regime. They considered nuclear deterrence to be a dangerous and ineffective foundation on which to base national security, and they rejected any option for using nuclear weapons to retaliate for mass casualty terrorist attacks. Most supported deep reductions in the size of nuclear arsenals and de-alerting all nuclear forces, and they were critical of the US stockpile stewardship program for being too complex and expensive. Group members were the strongest supporters of both the START process and a comprehensive ban on all nuclear weapons testing. And they were the most strongly opposed to national missile defenses of any of the four groups. They were the least willing to justify the use of nuclear weapons for any purpose other than

detering other nuclear weapons. Among the four elite clusters, Group One was the most critical of traditional concepts of nuclear security.

### ***Elite Group Two***

Elite Group Two members thought the absence of Cold War hostilities provides important opportunities for the US to lead the international community away from dependence on nuclear weapons. Nine of the group's fifteen members considered eliminating nuclear weapons to be desirable, but only two members thought it was feasible in the foreseeable future. Most thought that the risks of nuclear weapons outweighed their benefits, and they favored significant reductions in nuclear arsenals. They supported increased efforts to assist Russia in securing and reducing Russian nuclear assets. Most did not consider China to pose a serious nuclear threat to the US. Members supported the START process and the CTBT, and they favored de-alerting US and Russian nuclear forces. Group members were optimistic that the stockpile stewardship program could sustain the reliability of the US nuclear arsenal in the absence of testing while the international community moves toward denuclearization. Most members opposed developing national missile defenses. Few could envision any circumstance other than a nuclear attack against the US that would justify employing US nuclear weapons, and some opposed a nuclear response even under those conditions. Of the four elite clusters, Group Two was the second most critical of the traditional tenets of nuclear security.

### ***Elite Group Three***

Members of Elite Group Three judged the post-Cold War security environment to be safer in terms of the risks of nuclear war, but more difficult to manage because of a wider number of actors and unclear parameters for committing US military forces. Most thought the benefits of nuclear deterrence continue to outweigh risks associated with nuclear weapons, but they were willing to reduce the size of the US nuclear arsenal. Only two of the group's sixteen members considered nuclear abolition to be desirable, and none considered it feasible. Though most members did not oppose arms control processes, some questioned the continued viability of the bilateral model developed during the Cold War. Some favored letting the Russian arsenal decrease as a function of its weakening economic base and adjusting US force structures and postures accordingly. Some members were skeptical of assumed benefits of the CTBT, and worried that the US nuclear

arsenal could not be maintained reliably in the indefinite absence of nuclear testing. Most questioned de-alerting, because they doubted that sufficient verification measures could be implemented. Opinion was divided about national missile defenses: some supported a limited system, while others worried that it might stimulate counterproductive behaviors by Russia and China. Most were of the opinion that nuclear weapons should not be employed except in retaliation for nuclear attacks against the US, its forces, or key allies. Among our four elite clusters, Group Three was the second most supportive of traditional deterrence-based nuclear security concepts.

### ***Elite Group Four***

The ten members of Elite Group Four generally considered the post-Cold War security environment to be more dangerous than the Cold War era, and they favored preserving options for acting unilaterally when necessary to protect US interests. They valued nuclear deterrence as the cornerstone of US security, and considered the benefits of US nuclear weapons to far outweigh any associated risks. Accordingly, none of the group's members thought that nuclear abolition was either desirable or feasible. Members considered the control of Russian nuclear assets to be the greatest security priority, but most saw China as a rising power and growing threat to US security interests. Most were skeptical of arms control processes in general and firmly opposed to the CTBT, considering the eventual testing of US nuclear weapons to be necessary to ensure stockpile integrity and the efficacy of US deterrence. As a result, several questioned whether stockpile stewardship can ensure reliability of the US nuclear arsenal over the long-term. While they were cautious about decreasing US nuclear weapons to very low numbers, most supported modest reductions. They dismissed de-alerting as impractical and dangerous. Most expressed strong support for national and theater missile defense systems. Elite Group Four supported traditional concepts of nuclear security to a greater degree than any other elite cluster.

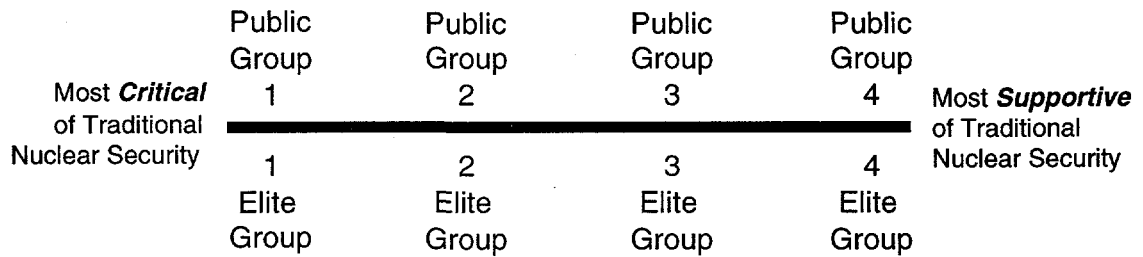
## **Section 9.3: Relating Patterns Among Mass and Elite Publics**

**T**HE ABOVE CHARACTERIZATION OF GROUP VIEWS ILLUSTRATES A PATTERN of parallel perspectives and policy preferences between our respondents from mass and elite publics that can be arranged along a linear spectrum from those most critical of traditional concepts of nuclear security to those most



supportive. As a function of differing perspectives and policy preferences, the relative distances between groups within each of the two publics appear to be roughly symmetric, and the views between corresponding groups among both publics are similar. We approximate their spatial relationships in Figure 9.1.

**Figure 9.1: Relating Mass and Elite Policy Clusters**



### Boundaries and Fences

These patterns describe a context for policy debate in which contrasts in belief systems and policy preferences between Groups One and Four among both elite and mass publics starkly define key boundaries of debate. Beliefs between the polar groups about nuclear deterrence, nuclear retaliation, and the relative risks and benefits of nuclear weapons were diametrically opposed. Also, preferences for sizing and posturing US nuclear forces, the utility of national missile defenses, and beliefs about the desirability and feasibility of nuclear abolition between the two groups were in strong opposition to each other. Areas of partial overlap were few in number, but they included the following: (a) general agreement that nuclear weapons pose a mortal threat to the survival of the US; (b) impatience with some formal arms control processes; (c) critical views of US policies towards Russia; and (d) dissatisfaction with stockpile stewardship. However, each of these shared perspectives yielded very different implications for how the members of Groups One and Four wanted to see policy evolve. These implications were more richly illustrated among the elite groups, because the restrictions of survey instrumentation did not allow members of the general public to as fully explain rationales underlying policy preferences as was possible during our extended interviews with policy experts.

- To offset the mutually perceived threat of nuclear weapons, members of Elite Group One supported deep reductions, de-alerting, and eventual elimination of all nuclear weapons, while members of Elite Group Four

preferred to offset the threat of others' nuclear weapons by strengthening the US nuclear deterrent.

- Members of Elite Group One who were impatient with the progress of arms control wanted the US to act unilaterally to reduce drastically the size of its nuclear arsenal and de-alert its nuclear forces, while Elite Group Four members who distrusted arms control wanted the US to abandon agreements that cannot be verified to a high degree of certainty and that limit US prerogatives to develop, test, and upgrade its nuclear weapons.
- Elite Group One members criticized US policy toward Russia for being too timid and for not providing more resources for the security and control of Russian nuclear assets, while those in Elite Group Four took issue with US policy for its failure to require Russian accountability.
- Members of Elite Group One were critical of stockpile stewardship for being unnecessarily complex and expensive, while Elite Group Four members disliked stockpile stewardship for providing rationale for abandoning nuclear weapons testing.

So, even in these areas of overlap in views between Groups One and Four, group orientations led to very different policy preferences.

### **Potentially Fertile Fields**

The views expressed by public and elite Groups Two and Three suggest greater potential for compromise. For example, both groups supported substantial reductions in the numbers of nuclear weapons, but with different objectives in mind. Members of Elite Group Two saw deep reductions as politically feasible intermediate steps toward eliminating all nuclear weapons, while Elite Group Three members rationalized reductions based on changing strategic relationships, but most did not envision nuclear abolition. Our data from the general public support similar conclusions, with substantial support for reducing nuclear weapons among Public Groups Two and Three, but both groups reported reservations about the feasibility of eliminating them.

Groups Two and Three of both publics were generally supportive of arms control processes, but members of Elite Group Two saw more intrinsic benefits in arms control architecture, formalized communications channels, and

associated venues than did Elite Group Three members, who viewed arms control more as a tool to be used selectively when it helps advance US interests and objectives.

De-alerting was not investigated among the general public; however many of our participants among Elite Groups Two and Three were open to the concept, but they wanted assurance that verification was feasible. Similarly, views overlapped among Elite Groups Two and Three about the advantages and disadvantages of national missile defenses, and support for NMD was well above midscale for both Public Groups Two and Three. Also there was widespread agreement across both groups and both publics about the capability and potential for the general public to contribute to security policy evolution.

### **Utility of Group Relationships**

The distinctive differences in perspectives and preferences between Groups One and Four among both publics suggest two useful functions. First, they can help define the parameters of likely policy debate. Second, they can identify key areas of dispute around which coalitional behaviors may become organized.

The overlap in acceptability of some policy options among Groups Two and Three also can be useful, because it indicates potential areas of intermediate policy compromise, even when longer range goals may differ substantially. They can serve as pointers to the political "art of the possible" and help show where security policy may have the greatest opportunity to evolve with more widespread support.

### **Relating Saliency and Valuation**

We shift our focus now to an observation about a potential misunderstanding between mass and elite publics. During our interviews with policy experts, we found that most were discouraged about what they perceived to be a decline in interest among the general public about nuclear security issues since the end of the Cold War. As illustrated by some of their commentaries in the previous chapter, many policy experts equated what they perceived to be declining *saliency* of nuclear weapons issues with assumptions about decreasing *valuation* of nuclear weapons by the general public. Yet trends over time

in our measurements of the importance attached to nuclear weapons and support for nuclear investments by respondents to four national surveys of the general public showed statistically significant increases as summarized in Tables 9.1 and 9.2.<sup>6</sup>

**Table 9.1: Trends in Mean Public Ratings of the Importance of US Nuclear Weapons**

Questions (Response Scale: 0 = Not At All Important—10 = Extremely Important)	1993	1995	1997	1999	p Value <sup>7</sup> 1993–99
Q16: Importance of nuclear weapons for US influence over international events	6.1	6.2	6.3	6.7	<.0001
Q17: Importance of nuclear weapons for US status as a world leader	6.3	6.7	6.6	7.1	<.0001
Q18: Importance of the US remaining a military superpower	7.6	7.9	8.2	8.5	<.0001
Q19: Importance of nuclear weapons for preserving America's way of life	6.1	6.3	6.3	6.5	.0003
Q32: Importance of retaining US nuclear weapons today	6.6	6.8	7.2	7.5	<.0001

<sup>6</sup> Question wordings and distributions of responses are in Volume I: Appendix 3, Q16–19, Q32, and Q36–40. Note that the scales are different for Tables 9.1 (0–10) and 9.2 (1–7). We discuss public valuation of US nuclear weapons in more detail in Volume I, Chapter Three.

<sup>7</sup> P-value is a measure of the probability that differences in means between measurement periods would have occurred by chance. Statistical significance is attributed to those differences that would have occurred by chance fewer than five times in 100 (equivalent to a 95 percent confidence level). For example, in table 9.1, Q16, the difference between mean response values in 1993 and 1999 would have occurred by chance fewer than once in 10,000 times, and is therefore considered highly statistically significant. Statistical significance, however, does not always equate to operational relevance. The relevance of statistically significant differences in means must be judged in the context of the variables being measured and the groups being compared.

**Table 9.2: Trends in Mean Public Preferences for Nuclear Investments**

Questions: How should government spending change for: (Response Scale: 1 = Substantially Decrease—7 = Substantially Increase)	1993	1995	1997	1999	p Value <sup>8</sup> 1993–99
Q36: Developing and testing new nuclear weapons?	2.8	2.6	3.1	3.4	<.0001
Q37: Reliably maintaining existing nuclear weapons?	4.5	4.4	4.6	5.0	<.0001
Q38: Research to increase the safety of existing nuclear weapons?	5.2	5.2	5.6	5.8	<.0001
Q39: Training to ensure competence of those managing nuclear weapons?	5.7	5.8	6.0	6.2	<.0001
Q40: Maintaining the ability to develop and improve nuclear weapons in the future?	3.7	4.0	4.4	4.8	<.0001

If public saliency of nuclear security issues is decreasing, how can the above trends in public valuation of nuclear weapons be reconciled? The apparent contradiction derives from assuming that the saliency of nuclear weapons issues can be equated with the way the public values nuclear weapons. In the context of public policy debates, it is useful to understand issue salience as reflective of latent energy for policy change. It is a relative indication of acceptance of current policy as compared to impetus for change. Policy acceptance could derive from indifference or from satisfaction, but regardless of the reason, the effect is an apparent low level of latent energy for changing existing policy. The indications of value and importance of nuclear weapons are absolute measures based largely on public perceptions of the related risks and benefits associated with nuclear weapons at a given point. They become relative trend indications when repeatedly measured over time.

We think this conceptual distinction has important implications for evolving nuclear security policy, because concluding that the general public does not value nuclear weapons or does not care about nuclear weapons policies can lead to incorrect assumptions about potential public support for, or acceptance of,

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<sup>8</sup> Ibid.

major policy changes.<sup>9</sup> For example, assuming that apathy about nuclear policy means the public no longer values nuclear security could be misleading. It could lead to misconceptions and misrepresentations about whether the public would be willing to abandon a defense posture based on nuclear deterrence, or the degree to which the public may support future efforts to eliminate nuclear weapons. The direction of the trends since 1993 in public valuation of nuclear weapons is opposite that which would indicate public support for complete denuclearization.<sup>10</sup> To the contrary, these trends indicate substantial support for nuclear security that may be masked by relatively low issue saliency.

## Section 9.4: Implications for Security Policy Processes

**F**INDING COMPARABLE AND PARALLEL PATTERNS OF BELIEFS AND preferences about nuclear security among elite and mass publics may have implications for devising policy strategies and for directing coalitional behaviors.

### The Knowledge Gap Is Not Impassable

Our findings indicate that even though significant differentials in factual knowledge about nuclear security issues and policies may exist between elite and mass publics, the general public includes subgroups that share an affinity for similar kinds of security policies advocated by corresponding elite groups. There are natural constituencies among the general public for each of the major coalitions we found among policy elites, and this suggests that advocacy strategies can be tailored to address the belief systems and predilections of specific segments of the public. Policy advocacy by coalitions of “opinion leaders” can be directed to different segments of the general public with predictable expectations about affinity and receptivity that can leverage resource investments.

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<sup>9</sup> The distinction can readily be understood in other policy contexts as well. In transportation policy, for example, the public may place very high value on maintaining highways and bridges, but the saliency is likely to be low as long as current policies are seen as adequate. For the more general literature on issue salience and attention, see Carmines and Stimson 1989, Downs 1972, Peters and Hogwood 1985, and Stimson 1991.

<sup>10</sup> For a discussion of trends in public perceptions about the importance of US nuclear weapons and preferences for investments associated with nuclear weapons and infrastructure, see Volume I, Chapter Three.

These parallel characteristics that exist in spite of knowledge differentials also suggest that members of the general public can productively participate in policy debates about nuclear security in much the same ways that they participate in debates in other policy domains. Coalitions can be built and policies can be advocated with greater and lesser chances of success based on how policy choices are related to various segments of the public and how different public constituencies are understood.

## **The Dynamics of Policy Processes, Risks, and Benefits**

There are important attributes of security policy processes and relationships among nuclear weapons risk and benefit perceptions that affect the likelihood of substantial change in nuclear security policies.

### ***Systemic Resistance to Change***

The ways in which US policy processes accommodate change militate against substantial or rapid perturbations in nuclear security policies. Public policy processes provide many opportunities to prevent or limit change through the fracturing of political authority, division of authorizing and budgeting responsibilities, and the ready exercise of bureaucratic power to say “no.”<sup>11</sup> Few policy makers or bureaucracies have the necessary power to foster major change independently, but many have the power to limit or impede change. The advocacy coalition framework for analyzing policy processes makes the following two observations about policy change:<sup>12</sup>

- The policy core attributes of a governmental program in a specific jurisdiction will not be significantly revised as long as the subsystem advocacy coalition that instituted the program remains in power within that jurisdiction—except when the change is imposed by a hierarchically superior jurisdiction.
- The policy core attributes of a governmental action program are unlikely to be changed in the absence of significant perturbations external to the subsystem, i.e.,

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<sup>11</sup> For the origins of the dispersion of political authority, see James Madison and Federalist No. 10 in Hamilton, Madison, and Jay, 1961. For a discussion of the power of administration, see Long, 1990, and for a general overview of bureaucratic power, subgovernments, and issue networks, see Edwards, Chapter 9.

<sup>12</sup> Sabatier and Jenkins-Smith, 1999, p. 124. Also see Sabatier and Jenkins-Smith, 1993.

changes in socioeconomic conditions, public opinion, system-wide governing coalitions, or policy outputs from other subsystems.

Effecting substantial change in traditional concepts of deterrence-based nuclear security requires overcoming the inertia of traditional establishmentarian policies that have based security on nuclear deterrence for more than fifty years. The status quo is resistant to change in the absence of significant exogenous impetus. Whether or not the post-Cold War era will provide sufficient rationale to stimulate and justify change is still an open question, but clearly the first ten years of the new security environment have not provided the necessary conditions for effecting large, substantive changes in policy.

### ***The Dynamics of Nuclear Risk and Benefit Perceptions***

As discussed in Volume I, Chapter Two, we hypothesized that public perceptions of nuclear weapons risks and benefits included four related dimensions. In each of our surveys of the general public and in our previous surveys of scientists and legislators, we employed composite measurements of two categories of nuclear weapons risks and two categories of nuclear weapons benefits.<sup>13</sup> External nuclear risks are those associated with others' nuclear weapons, and domestic nuclear risks are those perceived to derive from maintaining and managing the US nuclear arsenal.<sup>14</sup> External nuclear weapons benefits refer to enhancements to US security and influence perceived to derive from US nuclear weapons, and domestic nuclear benefits refer to economic influences (investments and jobs) and technological transfers thought to be associated with US nuclear security programs.<sup>15</sup> We provide trends in public perceptions of each of the four risk and benefit indices in Volume I, Chapter Two. The object of our discussion here is to analyze how the four kinds of risk and benefit perceptions interact with policy processes to affect the evolution of nuclear security policy.

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<sup>13</sup> Though we asked the policy experts we interviewed to comment on their perceptions of the risks and benefits associated with nuclear weapons (see Volume II, Chapter Three, Section 3.1), we did not investigate them as systematically as we have studied perceptions of nuclear weapons risks and benefits among other elite groups and mass publics.

<sup>14</sup> For a discussion of multiple measures of nuclear weapons risks and how we constructed composite indices of external and domestic nuclear risk perceptions, see Volume I, Chapter Two, Sections 2.1 and 2.2.

<sup>15</sup> For a discussion of multiple measures of nuclear weapons benefits and how we constructed composite indices of external and domestic nuclear benefit perceptions, see Volume I, Chapter Two, Sections 2.3 and 2.4.



Increases in perceptions of external nuclear risks, external nuclear benefits, and domestic nuclear benefits are all positively related to support for retaining or enhancing US nuclear weapons capabilities. Of our four risk and benefit indices, only increases in perceptions of domestic nuclear risks are negatively related to support for nuclear weapons.<sup>16</sup> This means that to gain leverage for substantial policy change, proponents would need to illustrate that external nuclear risks, external nuclear benefits, and domestic nuclear benefits are *decreasing*, and that domestic nuclear weapons risks are *increasing*. In the absence of empirical evidence to these effects, it is likely that policy inertia will continue to favor the status quo. The burden of proof is on the proponents of change to marshal evidence to justify why nuclear risks and benefits have evolved in directions warranting change, while opponents to change bear no such burden of proof for justifying why policy should *not* change substantially.

Furthermore, as we reported in Volume I, Chapter Three, composite perceptions of external nuclear benefits are much more strongly predictive of policy preferences than are any of our other three risk and benefit indices. Thus, in the absence of catastrophic events, arguments for change based on the domestic risks of maintaining the US nuclear arsenal will exert less policy leverage than arguments that external nuclear benefits (primarily nuclear deterrence), which were widely perceived to have protected the US during the Cold War, continue to be effective and relevant in today's security environment. This relationship between risks and benefits is almost exactly the reverse of that which appears to prevail in debates about nuclear generated electrical power.

Today's nuclear security policy environment is one in which systemic attributes of the policy process are coupled with the dynamics of risk and benefit perceptions in the context of relatively low issue saliency. These conditions are buttressed by public perceptions of rising threats of mass casualty terrorism, nuclear proliferation in South Asia, threatening behaviors by states outside the normative boundaries of the international community, and increasing calls for US intervention to mediate ethnic and other regional conflicts. Together, these dynamics mitigate against substantial security policy change,

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<sup>16</sup> See Volume One, Chapter Three, Table 3.3 for the bivariate relationships between our external and domestic nuclear risk and benefit indices and the importance of retaining nuclear weapons. Also see Table 3.5 for multivariate effects of our risk and benefit indices on selected policy preferences. Similar relationships are reported for the general public in Chapter Four of Herron and Jenkins-Smith, 1996, and for mass and elite publics in Chapter Four of Herron and Jenkins-Smith, 1998.

and help explain why in the first decade of the post-Cold War era, many of the traditional nuclear force structures, postures, and policies have proven much more resistant and resilient than some observers predicted in the euphoric period immediately after the demise of the Soviet Union.

## **Section 9.5: Bottom Lines**

- Groups exist among both mass and elite publics that share similar beliefs, exhibit similar perspectives, and hold similar policy preferences about important aspects of nuclear security.
- Both mass and elite groups can be organized along a spectrum from most critical to most supportive of traditional deterrence-based concepts of nuclear security that evolved during the Cold War.
- Differences in issue knowledge between mass and elite publics do not appear to prevent similar conclusions and preferences about nuclear security policy to be reached among both types of publics.
- Similar groupings of beliefs, perceptions, and policy preferences about nuclear security among both elite and mass publics may be relevant for coalition building and policy advocacy.
- Stark contrasts in belief systems and policy preferences exist between polar clusters (Groups One and Four) among both elite and mass publics that illustrate key parameters of debate about nuclear security.
- Important areas of overlap in perspectives and policy preferences exist between intermediate clusters (Groups Two and Three) among mass and elite publics that may indicate areas of potential compromise in policy evolution. Because the memberships of these groups may be fungible, affinity for policy coalitions may vary depending on the issue being debated.
- Systematic patterns of beliefs and preferences about nuclear security among elite and mass publics implies that relative support for, or opposition to, alternative policy options may be sufficiently predictable to inform policy advocacy by helping to specify opposition positions and potential coalitions.

- Understanding the implications of perceptions of nuclear weapons risks and benefits can inform and leverage policy advocacy.
- Political saliency of nuclear security issues does not necessarily equate to valuation of nuclear weapons. But low saliency may inhibit efforts to build policy coalitions and may limit the levels of public support for change.

To conclude this report we return to the issue of expectations about the role of publics in security policy processes. Our research indicates that there is integrated structure to the belief systems and opinions about security policy among not only elite publics but also among the US general public. One implication for security policy evolution is that “manipulating” the public or even “educating” the public (which often is a euphemism for convincing the public of the “correct” view) is not easy when its members hold highly integrated beliefs and preferences. Concluding that the public no longer values nuclear security because the political agenda often does not include nuclear security issues is unwarranted. Concluding that public opinion in matters of security can be ignored because a governing body acts contrary to majority opinion without immediate political retribution (such as appears to have been the case in Senate rejection of the CTBT) also is not justified. Either conclusion serves only to reinforce misperceptions about public capabilities and interest in participating in security policy processes. Our research indicates that the same attributes that make manipulating the public difficult also make the American public trustworthy participants in the policy process.

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## ***Volume II: Appendix 1***

### **Research Methodology**

**T**HE ELITE INTERVIEW PORTION OF OUR RESEARCH WAS DESIGNED TO better understand a wide range of expert opinion regarding the evolving nature of nuclear security. It consisted of in-depth face-to-face interviews with fifty members of the US security policy community.

Structured interviews that follow a fixed set and order of questions worded the same for all respondents are typical of formal surveys. Most such questions are closed-ended (having the same limited number of response options for each participant). Unstructured interviews have few if any preplanned subject guidelines, and they employ open-ended questions that allow the discussion to take directions revealed by the respondent during the course of the interview. This technique is typical of biographical histories. For our project, we employed a semistructured qualitative interview format with open-ended questions. Our approach was based a preplanned topical guide, but was flexible enough to accommodate discussions of subjects and issues raised by the participants during the course of the interview.

All interviews were recorded on audiotapes from which verbatim written transcripts totaling more than 1,000 pages were prepared. Because the data were entirely textual, qualitative analytical methods were required, and this appendix describes our sampling, collection procedures, and analytical techniques.

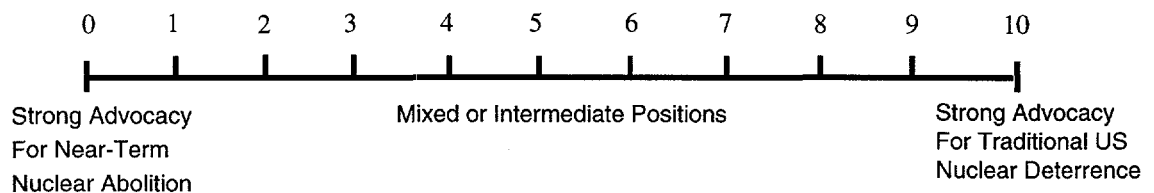
#### **Section A1.1: Sampling**

**T**WO LIMITATIONS SHAPED SAMPLING OPTIONS. FIRST, NO COMPREHENSIVE accounting of members of the US security policy community existed. Second, while approximately fifty interviews are statistically

for probabilistic sampling, the sampling error would exceed 15 percent. As a result, probabilistic sampling that would support statistical inference to the security policy community at large was not feasible.

As an alternative, we employed a purposive sampling technique designed to maximize variation in opinions across a theoretical spectrum of views about nuclear security.<sup>1</sup> We conceived of the policy spectrum as extending from one endpoint representing strong preference for near-term elimination of all nuclear weapons, to an opposite endpoint representing strong preference for nuclear forces and postures that support classical deterrence-based nuclear security. A variety of intermediate positions can be located along the spectrum between the end points. The concept is graphically shown in Figure A1.1.

**Figure A1.1: Purposive Sampling Spectrum**



Our sampling methodology required selecting participants based on expected views about nuclear weapons and preferred US nuclear security posture. Expectations about the views of potential participants were derived from their published work and organizational affiliations, research team members' personal knowledge, and from recommendations from other members of the community. As early interviews were completed, we categorized the views of respondents relative to the sampling spectrum, and future invitations were shaped to ensure coverage of the intended range of perspectives. Selection also was influenced by potential respondents' availability and willingness to participate. No compensation was paid to any interview respondent.

Though this approach to sampling did not support statistical inference to the entire security policy community, or to individual subgroups, it did provide the following utilities.

<sup>1</sup> For a description of the method known as "purposive sampling," see Maxwell, 1996, and for similar techniques termed "theoretical sampling," see Strauss and Corbin, 1990.

- It ensured that a wide range of elite views were compared.
- It allowed us to approximate maximum variation across the full spectrum of expert views most relevant to the debate about the future of nuclear security.
- It provided a sound and operationally feasible methodology for selecting elite respondents.

## Section A1.2: Respondent Protections

**A**LL RESEARCH INVOLVING HUMAN SUBJECTS CONDUCTED UNDER THE auspices of the University of New Mexico must comply with applicable federal regulations and institutional guidelines designed to protect participants in the research. Title 45, Code of Federal Regulations, Part 46 §102 defines protection of human subjects. Part 46 §101 of Title 45 provides for exemptions and expedited review of federal guidelines for the protection of human subjects. Part 46 §116 and §117 of Title 45 describe the general requirements for informed consent. The University of New Mexico's *Assurance of Compliance with HHS Regulations for Protection of Human Research Subjects* provided institutional guidance. The methods and protocols for this study were in accordance with all federal and institutional guidelines and were approved by the University of New Mexico's Institutional Review Board. All interviews were conducted in accordance with the approved protocols, and informed consent was documented for each session.<sup>2</sup> All interviews were conducted with assurance of nonattribution, but we asked approval from each respondent to list his or her name as a participant in this portion of our project.

## Section A1.3: Initial Contact and Scheduling

**I**NITIAL CONTACT WITH MOST PROSPECTIVE RESPONDENTS WAS VIA AN introductory letter describing the project, identifying research team members, specifying research objectives, and requesting an in-depth interview of about ninety minutes. Also the letter included information about the source of funding, the requirement to record the interview, and assur-

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<sup>2</sup> See Annex A of this appendix for the consent form used.

ances of nonattribution. Enclosed with the letter was a one-page topical outline providing an overview of the broad subjects we wanted to discuss.<sup>3</sup> Within about a week after receipt of the introductory letter, the designated interviewer contacted the prospective respondent by telephone to further explain the project, answer any initial questions, and make an appointment for a face-to-face interview. Appointments were made to interview participants in places that afforded privacy and low ambient noise levels at times that were convenient for the respondents.

## Section A1.4: Data Collection

**F**IFTY INTERVIEWS WERE CONDUCTED BETWEEN JUNE 3, 1999 AND March 1, 2000. All interviews followed the same preplanned interview guide, but content varied somewhat based on each participant's experience, interests, and preferences.<sup>4</sup>

Recordings provide several important capabilities for qualitative research, and all of our interviews were recorded with the knowledge and permission of the respondents.<sup>5</sup> Among the advantages of recordings are the following:

- All research team members could not be present at each interview, and the audiotapes and resulting transcripts provided the means for sharing interview content and context with other team members.
- Recordings yield far more detail than can be captured by notes. They help provide context for interpreting notes and comments, do not require the interviewer to devote as much attention to the note taking process, and help avoid delays during the interview for completing notes.
- The recordings and associated transcripts helped us to standardize methods and ensure quality control of the interview process.

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<sup>3</sup> See Annex B of this appendix for the topical outline.

<sup>4</sup> See Annex C of this appendix for our interviewer guide.

<sup>5</sup> For discussion of advantages, disadvantages, and techniques for recording and transcribing qualitative interviews, see Gordon, 1980, 1992; Weiss, 1994; Rubin and Rubin, 1995; Poland, 1995; Kvale, 1996; and Seidman, 1998.



- Audiotapes provided the means for verbatim written transcripts that allowed coding and systematic comparative analysis using specialized software.
- The recordings provided protection for the respondents and research team alike by preserving what was actually said during the interviews.

Because we wanted the transcripts to reflect the considered views of each participant as accurately and as fully as possible, a written transcript prepared from the recording of each interview was provided both to the interviewer and interviewee for review and correction. Respondents were encouraged to edit their remarks as necessary to accurately reflect their views. For those participants who chose to edit their transcripts, a revised final copy was provided for their personal records.

## **Interview Techniques**

There is an extensive literature associated with qualitative interviewing, and recommended techniques and preferences can vary considerably depending on the academic discipline of the author. Following are selected principles, techniques, and suggestions that were useful in planning and conducting the elite interviews in our study. All were provided in our interview protocol booklet developed for this project and provided to each research team member. These brief recommendations reflect only a limited number of the considerations that applied to our project. Though some references are noted, they primarily are pointers to more in-depth discussions, and are not comprehensive notations of the associated literature.

### ***Setting the Tone and Guiding the Interview***

Our objective was to establish a relationship with the respondent in an atmosphere that would support a frank and honest expression of the respondent's views about nuclear security. Seidman (1998) recommends establishing a professional research relationship in which the respondent is encouraged to think of his or her role as a research "partner." He cautions, however, against over-familiarity. Weiss (1994) also counsels that the interviewer should subtly attempt to enlist the respondent's commitment to the project as a "partner" with an interest in seeing the outcome. We informed

each respondent of our research goals and objectives, our previous research in this series, and the source of our project funding. We also promised to provide a copy of our findings when the project was completed.

Robert Thomas (1995) cautions that some elites can be expected to attempt to take control of and direct interviews based on their own interests and past experiences with journalists. It was important for us to establish a friendly and interested tone that assured the respondents that we really wanted to understand his or her perceptions and opinions. It also was important, however, to be able to get the respondent to discuss the issues that we wanted to analyze. That meant that we needed to keep the discussion on the desired topics without stifling answers. Kvale (1996, pp. 126–28) offers the following observation:

*The conversation in a research interview is not the reciprocal interaction of two equal partners. There is a definite asymmetry of power: The interviewer defines the situation, introduces the topics of the conversation, and through further questions steers the course of the interview. ... A good contact is established by attentive listening, with the interviewer showing interest, understanding, and respect for what the subject says; at the same time, the interviewer is at ease and clear about what he or she wants to know.*

Our best chance to keep the discussions focused without curtailing useful information depended on three things. First, we gave the respondent enough information about what we were studying to help direct the desired discussion. The one-page topical outline at Annex B was provided to each participant in the initial contact letter or at the beginning of the interview. The topical outline helped some respondents see where the interview was headed and helped them reserve some comments for subjects that would follow. Second, we monitored the elapsed time to ensure balance among topics. We wanted to avoid having a detailed discussion about one or two topics to the exclusion of all others. Third, with few exceptions, we kept polite but firm control of the interview.<sup>6</sup>

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<sup>6</sup> Discussions of how to guide the content of interviews can be found in Chapter 4 of Weiss, 1994; Chapters 6 and 7 of Rubin and Rubin, 1995; Chapters 6 and 7 of Seidman, 1998; Chapter 2 of Gottlieb, 1986; and Chapter 7 of Kvale, 1996.

## **Effective Listening**

Gordon (1992) observes that few people are good listeners, because we are taught communication skills such as reading, writing, and speaking, but listening is rarely if ever emphasized. He calls attention to the difference between *hearing* and *listening*. Hearing is characterized as an automatic physiological process of sensation. In comparison, listening is not automatic; it is a high-order cognitive process that occurs only with intent, effort, and concentration. Listening involves interpretation, comprehension, evaluation, appreciation, and response. Gordon offers the following suggestions for effective listening:

*Know the objectives:* We needed to be intimately familiar with our research objectives and how each question contributed to them. This often was the key to guiding probes or follow-up questions.

*Know the respondent:* Though we did not know most respondents personally, we familiarized ourselves with highlights of each respondent's background, previous professional positions, published work, etc. prior to the interview.

*Pay attention from the beginning:* We attempted to prevent substantive questions from being addressed before we were fully ready to listen. That meant completing introductory pleasantries, establishing the physical arrangements, having the tape recorder working, and being ready to make notes and to carefully listen before we asked the first substantive question.

*Control the urge for self-expression:* Almost every author who writes about interview techniques makes the point that as interviewers we should resist the urge to express our own views, interrupt the respondent (except rarely to keep them on subject), or disagree or agree with the respondent (other than brief facial or vocal expressions intended to indicate interest). *We tried to remember that it is impossible to learn anything from the respondent while the interviewer is talking.*

*Listen actively:* We attempted to "listen" for both verbal and nonverbal (paralinguistic) communication. Those observations that would not be captured on tape were sometimes included in our notes and attached to the tape for analysis. We attempted to relate to our research objectives what the re-

spondent was saying and to probe as required to ensure the related topics were adequately addressed.

*Listen empathetically:* This required us to be both a sensitive receiver of signals and a sender of responses that indicated appreciation and respect. We attempted to encourage respondents through our posture, eye contact, facial expressions, and by noninterrupting vocalizations.

*Be patient and nonjudgmental:* This meant avoiding overcontrolling the respondent and refusing to panic if the interview seemed to be getting out of control. It also meant projecting a nonjudgmental attitude toward the respondent and the information she or he was providing. Patience was key to sustaining active, empathetic listening.

*Listen for research validity:* McCracken (1988) notes that in addition to listening carefully to the answer in all its context, we must listen specifically for key terms, impression management, topic avoidance, deliberate distortion, minor misunderstanding, and outright incomprehension. Are the meanings of key terms clear? How are they linked? Is the respondent getting a wrong impression of what we are trying to understand? Is the respondent purposely avoiding a topic? Is he or she deliberately distorting our question or our intent? Is there misunderstanding or incomprehension of what we are trying to learn from the respondent? McCracken also notes that the interviewer must listen for implications and assumptions that will not come to the surface by themselves and think of ways of unearthing them. We attempted to listen not only for what existed in responses to our questions, but also what the material might be pointing to in the mind of the respondent.

### ***Other Interviewing Guidelines***

We also attempted to follow the additional interviewing advice that Seidman (1998) offers.

*Follow-up on what the respondent says:* Although we came to the interview with basic questions and an intended general flow of discussion, it was in response to what the respondent said that we chose follow-up questions, asked for clarification, sought concrete details, and requested additional information. We attempted to let the questions follow, as much as possible,

from what the participant was saying. Sometimes this meant changing the order of the topics we wanted discussed.

*Ask questions when something is not understood:* When we let the respondent know that we did not understand something, we were showing that we were listening. On the other hand, if we interrupted too often to ask questions, we broke the respondent's train of thought and increased the risk of evoking truncated answers. The technique we attempted to follow was to make a note of something that was not understood, and then to come back to it when the respondent was finished with her or his answer.

*Ask to hear more about a subject:* If we found that we wanted to hear more about what a respondent was saying, we asked questions that helped elaborate the subject under discussion. However, we also were aware that too much probing (or probing that interrupts) could make the respondent defensive. We attempted to remember that the overly aggressive use of probes could be interpreted as a vehicle for an interviewer's personal agenda, rather than as a balanced exploration of the respondent's opinion. On the other hand, too little exploration could leave us unsure of the respondent's meaning, and could allow the use of abstractions and generalizations that were of little analytical value. The balance was delicate, but we tried to remember that an interview that did not adequately address our research questions was a waste of time—ours and the respondent's.

*Avoid leading questions except for specific purposes:* A leading question influences the direction the response will take. The lead may come in the wording of the question, the syntax, the intonation, or in the implied response. Seidman (1998) cautions against leading (or loaded) questions. However, Kvale (1996) notes that some leading questions may be necessary to check the reliability of a respondent's answers as well as to verify our interpretations of their responses. Kvale considers the key issue not to be whether to lead or not to lead, but whether the questions lead in useful directions that produce new, trustworthy, and interesting knowledge. We attempted to be self-conscious of leading questions and to employ them sparingly and only for specific and limited purposes. Leading questions also are discussed by Weiss (1994), Patton (1989), and Gordon (1980).

*Make most questions open-ended:* Except for specific purposes, we avoided questions that invited yes or no answers. Instead, we asked questions that

invited the participant to construct and shape the response in such a way that we could understand it in the context and with the words of the respondent's own choosing. Of course, this also required us to enforce topical boundaries and to redirect the respondent if the discussion wandered beyond our areas of research interest. Most of our questions were open-end, but in some cases, we also included a few closed-end questions designed to allow us to approximate the respondent's position on the purposive sampling spectrum.

*Tolerate silence:* Some interviewers are uncomfortable with conversational silences or long pauses, and they have a tendency to fill a void with a quick question. Thoughtfulness takes time; we attempted to be tolerant of silences that sometimes followed a question, or a pause within a respondent's answer. In some cases we were rewarded by learning things that we would never have heard if we had leapt in with another question to break the silence. On the other hand, Yow (1994) and Gordon (1992) note that too long a silence on the part of the interviewer can sometimes put undue pressure on the participant, resulting in topic skipping or extraneous information. It was important to give the respondent space to think, reflect, and to complete what she or he had to say on a topic, so we sought to tolerate "pregnant pauses" while avoiding "embarrassing silences."

### ***Probes and Follow-up Questions***

Some authors categorize probing questions and follow-up questions separately, but for our purposes, they were considered the same. They represented our attempts to learn more about a subject than the respondent provided. Rubin and Rubin (1995) indicate that these kinds of questions can serve multiple purposes.

- They helped to specify the level of depth we wanted by pursuing themes that emerged and by confirming the implications of what had been said.
- They asked the respondent to clarify or expand the response that had been given. Contradictions, incomplete answers, guarded answers, and unfamiliar terms triggered follow-ups.
- They showed the respondent that we were listening carefully and that we wanted to fully understand what she or he had to say.

Gordon (1992) discusses the following principles of good probes and follow-ups:

- *Balance of freedom and control:* Probes are a tool that we sometimes used to balance topic control. Too much topic control can lead to interviews in which the questions grow longer and the responses become shorter and less spontaneous. Too little topic control can produce too many rambling irrelevancies. We sought to make judicious use of probes and follow-up questions to assist in maintaining a preferred balance between freedom of discussion and control of each interview.
- *Avoid loaded probes:* We attempted to use neutral, low topic-control techniques such as silence and encouragement whenever possible before using high topic-control probes. When framing probes, we sought to avoid emotionally loaded words, response categories that were restrictive, and argumentative questions.
- *Use the respondent's own words:* We attempted to phrase probe questions in terms used by the respondent so as to provide a cue for the respondent to pick up where he or she left off. This technique also lessened the chance that our objective would be misunderstood.

### ***Managing Topical Proportions and Transitions***

It is important to maintain topical balance in terms of the proportions of the interview devoted to each intended major topic. Our interview guide provided a reminder of the major subjects intended for discussion, and we initially sought to apportion the expected interview time roughly proportionately among the intended topics. However, we found that most respondents did not discuss the role of the public in security policy processes with the same depth of knowledge as most of the other topics, and those discussions tended to be shorter.

We wanted to avoid exhausting our total interview time on one or two topics, but this was sometimes difficult when a respondent preferred to discuss one subject at much greater length than others on our research agenda. One technique we tried to apply was to estimate the proportions of time intended for each subject area, and to note the approximate times at which we planned to move to the next topic (especially in our initial interviews). Of course, variations were necessary depending on how the discussion devel-

oped, but throughout the interviews we attempted to be aware of the elapsed time, where we were in the interview sequence, and which major subject areas remained to be discussed.

Though topical transitions are necessary, Weiss (1994) cautions that transitions require respondents to stop and reorient themselves and can be unsettling. The best transitions fit in so well with what the respondent has been saying that they seem almost to be continuations of the respondent's own associations. A good rule of thumb, according to Weiss, is that if a respondent is flustered by abrupt transitions more than three times in an interview, it becomes likely that she or he will wait for the next question, answer it briefly, and then wait for the subsequent question. This is the way respondents act in highly structured survey interviews, and it was not what we needed for in-depth qualitative interviews. We attempted to phrase necessary transitions in ways that helped prepare the respondent for redirection.

### **What to do When an Interview is Going Badly**

Following is advice from Weiss (1994, pp. 146–47) about what to do when an interview is not going well:

*It isn't hard to tell when an interview is going badly. Neither the respondent nor you is relaxed. The respondent may indicate discomfort or resistance or antagonism by lapses in attention or sparse responses or outright challenges. Even without this, you are likely to be uncomfortable. You can't get engaged by the interview. You find it hard to listen closely to the respondent, you aren't in touch with the respondent's account, limited as it is. Your questions are awkward, you fail to ask the respondent to extend a description or give detail for an incident, although usually you would do this almost automatically. You flounder. The interview takes on a survey research quality: you ask a question, and then the respondent gives a brief response and waits for the next question. You are painfully aware of how little the interview is producing and yet feel unable to rescue it.*

*What can you do? If it is the first few minutes of the interview, you might simply continue in the hope that you and the respondent will become more at ease. But if the interview has been going as long as five minutes, and the respondent indicates discomfort, you ought to try to strengthen*



*the research partnership. You might check that the respondent understands and accepts the study's assumptions. A pause in questioning to discuss the study's aims can make it easier for the respondent to ask for further information. You might search for an area of easy rapport; the area of the respondent's work will often do. You should make every effort to follow the respondent's lead in deciding what to talk about, so long as it is within hailing distance of the study's substantive frame. More than anything else, you should attend closely to both text and subtext of the respondent's statements. ... With some respondents, nothing can be done. It may be that the particular match of interviewer and respondent is wrong. Or it may be that the respondent will always refuse to provide usable information, or is unable to. Some people play their lives close to their chests and will never show their hand, no matter the circumstance. Chalk it up to experience. Everyone has some bad interviews. It is not essential for a study that every interview be illuminating. If this respondent does not provide information about some phenomenon, then another will. It's a shame to lose the opportunity to learn from a respondent, and a bad interview is a loss for the study. But the loss is virtually never fatal.*

Few awkward instances were experienced, and no interviews were lost.

## **Section A1.5: Data Coding and Analysis**

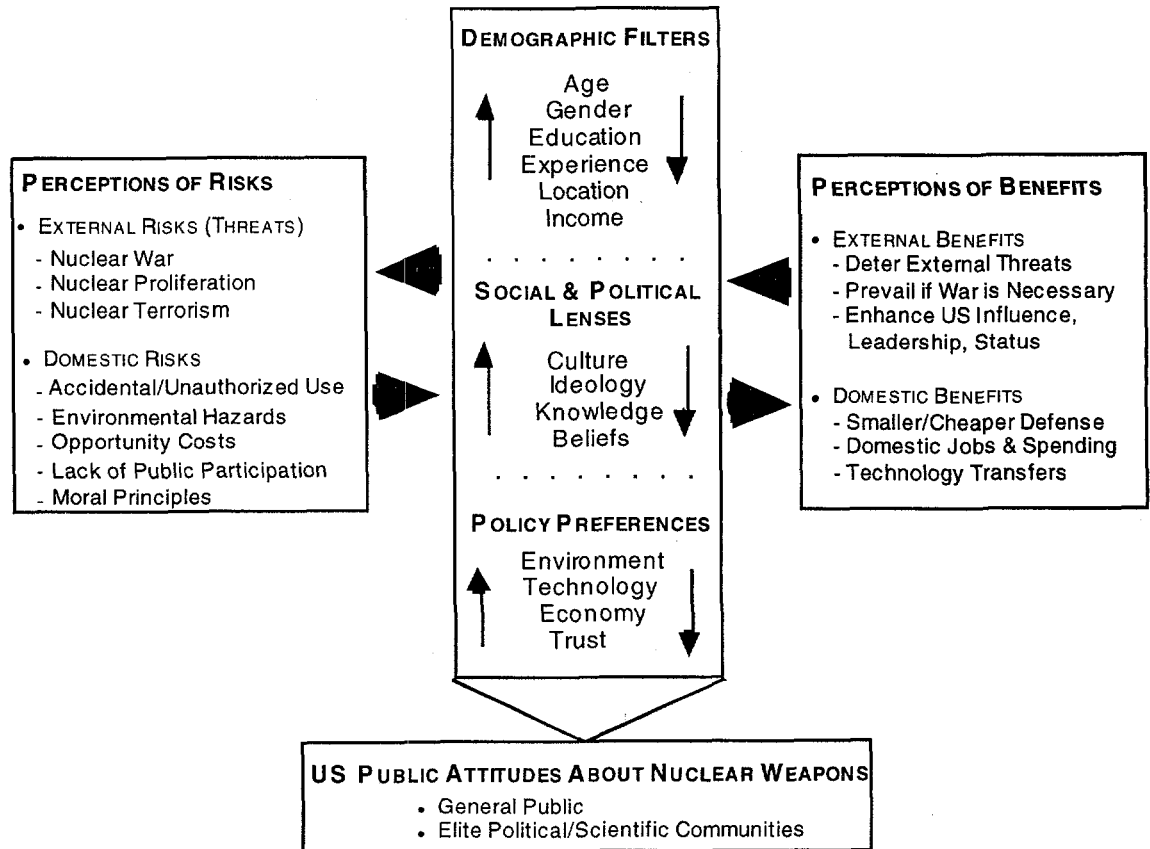
**A**FTER EACH TRANSCRIPT WAS FINALIZED, EACH PARAGRAPH WAS coded for entry into a specialized software for textual analysis known as QSR\*NUDIST 4.0 (Qualitative Solutions and Research, Non-numerical Unstructured Data Indexing Searching and Theorizing 4.0). This is one of the most widely used analytical software tools for qualitative research in the social sciences. It supports multiple coding for each paragraph and provides a wide range of flexible search and report options.<sup>7</sup>

Two researchers coded each interview separately using different but complementary coding approaches to enhance validity. In one approach, each paragraph was coded in accordance with the analytical model shown in Figure A1.2.

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<sup>7</sup> See Gahan and Hannibal, 1998, for a discussion of using NUD\*IST 4.0 for qualitative research.

**Figure A1.2: Analytic Model**



This framework suggests that public attitudes about nuclear weapons are the product of an ongoing, iterative process in which perceptions of the risks and benefits associated with nuclear weapons are evaluated within the context of a number of personal characteristics. This analytical framework provided coding method number one, a classical hypothetical-deductive (top-down) structure employing theory, related hypotheses, and primarily deductive logic to identify, structure and compare the interview data. Additional coding categories were added as necessary to accommodate views not easily categorized within the existing framework.

Coding method number two employed grounded theory techniques to code paragraphs based on frequency of topical occurrence. In this bottom-up approach, no theoretical framework was followed in which key relationships

were hypothesized *a priori*. Instead, each new topic was initially coded when it first appeared in any transcript, and associated topics were grouped and relationships among groups were explored using primarily inductive logic. This approach is widely used in various fields of social science to avoid presupposing expected relationships and to let observed relationships emerge from the data and the subsequent grouping of related subjects.<sup>8</sup>

These coding methods yielded two separately coded datasets, from which interview comments were sorted and aggregated for analysis and reporting. Results from each dataset for major topics to be analyzed were then compared for similarities and differences. This technique increased the likelihood that all comments relevant to each topic would be retrieved for analysis.

## Organizing Concepts

We employed two organizing concepts for structuring the data from our fifty interviews. One concept was based on the topical outline provided to respondents and the more detailed guide used by interviewers.<sup>9</sup> This yielded the following five major subject areas that provided the issue framework for our analysis:

- The international security environment
- The evolving nature of nuclear security
- Arms control and US nuclear force structure and posture
- Beliefs about principles of nuclear security
- Domestic issues and the role of the general public in security policy

The second organizing concept employed cluster analysis to identify separate groups of respondents having high levels of intergroup distinctions and high levels of intragroup similarities in views about nuclear security. Each respondent was separately rated by two researchers on each of the following five dimensions using the scales indicated:

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<sup>8</sup> See Glaser and Strauss, 1967, and Strauss and Corbin, 1990, for detailed explanations of the qualitative analysis technique known as grounded theory.

<sup>9</sup> The topical outline is at Annex B, and the interviewer guide is at Annex C of this appendix.

- *Desirability of nuclear abolition* (0 = not at all desirable–10 = extremely desirable)
- *Feasibility of nuclear abolition* (0 = not at all feasible in foreseeable future–10 = entirely feasible in foreseeable future)
- *Utility of US nuclear weapons* (0 = not at all useful–10 extremely useful)
- *Efficacy of nuclear deterrence* (0 = not at all viable or effective–10 = extremely viable and effective)
- *US vs. international system* (0 = US should work toward a world government; unilateral actions are illegitimate–10 = international organizations threaten US sovereignty; unilateral actions are preferable)

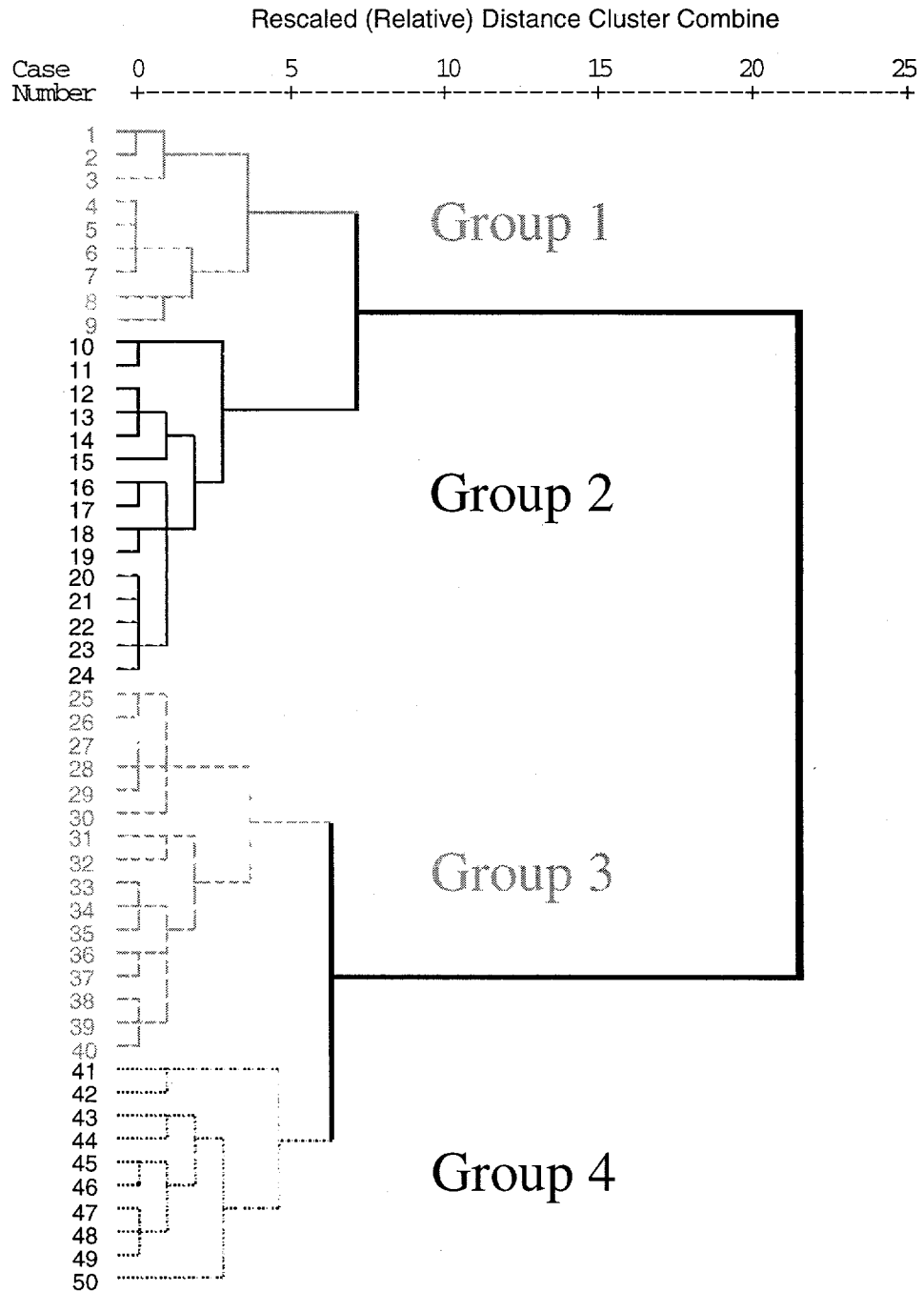
Differences in ratings between the two researchers were discussed, associated passages of text were reviewed, and where differences in interpretations remained, a midpoint rating between each of the two individual scores was adopted. All variables then were rescaled zero to one and equally weighted. The resulting values for each respondent were used in five dimensional agglomerative hierarchical cluster analysis with average linkage within group. In this method of clustering, individual cases are grouped into larger and larger clusters until all cases are members of a single group. To begin, all cases are considered as separate clusters, so there are as many clusters as there are cases. In the first step, a cluster is formed by grouping two of the cases. In the next step, a third case is added to the first cluster, or two other cases are grouped to form a second cluster. At each succeeding step, individual cases are added to existing clusters, or two existing clusters are combined. When a cluster has been formed, it cannot be split; it only can be combined with other clusters.

In the single linkage (nearest neighbor) technique for deciding which cases or clusters should be combined at each step, the first cluster is formed by combining the two cases that have the smallest multidimensional distance between them. Subsequently, the distance between the new cluster and other individual cases is the minimum distance between an individual case and a case in the cluster. For cases that have not been joined, the distances do not change. For each step, the distance between two clusters is the distance between their two closest points.<sup>10</sup> Results of our analysis yielded the four groups shown at Figure A1.3.

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<sup>10</sup> See Norusis, 1994, for a discussion of cluster analysis mechanics and techniques.

**Figure A1.3: Policy Elites – Hierarchical Cluster Analysis Dendrogram (Average Linkage Within Group)**



This dendrogram portrays each of the fifty interviews (cases) in terms of relative proximity to one another within a five-dimensional Euclidian space.

It identifies not only which clusters are joined, but also the relative distance at which they are joined. Instead of plotting actual distances, it rescales them to numbers between zero and twenty-five. Thus, the rescaled distance measure at the top of the dendrogram does not correspond to absolute distances, but it preserves the ratio of the distances between steps so as to provide a relative measure of Euclidian distance between and among cases. For example, cases 1 and 2 are quite similar, and they cluster at a scale value of zero. They are joined by case 3 at a scale value of one. Cases 4–7 are very similar, and they constitute another cluster at the lowest scale value. Cases 8 and 9 do not cluster until reaching a scale value of two. They join Cases 4–6 at a scale value of three. The two subgroups consisting respectively of cases 1–3 and cases 4–9 cluster at a scale value of four to comprise Group One. Notice that Groups One and Two cluster at a scale value of seven, and that Groups Three and Four cluster at a scale value of six, but the four groups do not combine into one cluster until reaching a scale value of twenty-two. This indicates that Groups One and Two are relatively closer, and that Groups Three and Four are relatively closer than any other combination of groups.

Within each group, members shared a high degree of commonality of perspectives about principles of traditional deterrence-based nuclear security. Mean values for each of the five clustering variables are shown in Table A1.1.

**Table A1.1: Means for Elite Cluster Variables**

Cluster Variable (Scales: 0–10)	Group 1	Group 2	Group 3	Group 4	p Value
Desirability of nuclear abolition	8.90	5.30	1.30	0.00	<.0001
Feasibility of nuclear abolition	6.70	1.30	0.00	0.00	<.0001
Utility of US nuclear weapons	1.56	4.00	7.69	8.40	<.0001
Efficacy of nuclear deterrence	2.33	4.80	8.19	8.70	<.0001
Role of US in international system	1.67	3.27	4.44	7.30	<.0001
Count	9	15	16	10	

**Group One:** The nine respondents in Group One were, on average, most critical of traditional principles of deterrence-based nuclear security. Eight of the nine considered nuclear abolition to be desirable, and six considered it to be feasible. They attributed the lowest mean utility to nuclear weapons of any group, and rated the efficacy of nuclear deterrence lower than any other group. Most members thought nuclear weapons had little if any utility, and they considered nuclear deterrence to be dangerous and unnecessary. As a group, they were rated lowest on the scale of US/international integration, indicating a world community perspective of how the US should relate to other states within the international system. This perspective excluded most unilateral options for pursuing national security interests.

**Group Two:** The fifteen participants in Group Two shared generally critical perspectives of traditional nuclear security, but they were somewhat less critical than members of Group One. Nine members considered nuclear abolition desirable, but only two members considered it feasible. On average, nuclear weapons were perceived to have very low utility, and nuclear deterrence was considered to be only moderately efficacious. Members preferred a highly integrated role for the US in support of international security and stability, including an active collective security role for international organizations.

**Group Three:** The sixteen members of Group Three shared views about traditional principles of nuclear security that were more supportive than either of the first two groups, yet were somewhat more equivocal than Group Four. Two members considered a nuclear weapons-free world as theoretically desirable, but none thought it feasible. Nuclear weapons were seen to have utility primarily for deterrence purposes, and when properly managed, nuclear deterrence was considered both efficacious and stable. On average, members perceived a highly integrated world in which most US security policies should be considered in a multilateral context, but with US leadership and capability for unilateral actions when necessary.

**Group Four:** The ten respondents in Group Four shared the most supportive views of traditional nuclear security. None considered nuclear abolition to be either desirable or feasible. Nuclear weapons were perceived to have great utility for deterrence and, if necessary, for prevailing in large-scale war. Nuclear deterrence was viewed as the primary reason why nuclear conflict was avoided during the Cold War, and nuclear weapons were thought to be useful for deterring nuclear and other types of mass casualty weapons.

Though acknowledging the increasingly integrated nature of the international system, members considered the US to have a unique role with unique responsibilities that require strong leadership and a willingness to act unilaterally in pursuit of US national security interests.

Using each of the two separately coded databases, we sorted commentaries from each of the four groups of respondents about each of the five major subject areas. Views expressed by the members of each of the four participant clusters were compared and contrasted to form the body of our analysis.



## ***Annex A: Informed Consent to be Interviewed***

**I consent to be interviewed for the following research purposes and with the following restrictions and protections:**

### ***Research Organization, Funding Source, and Objectives***

This research is conducted by the University of New Mexico's Institute for Public Policy (UNM IPP), 1805 Sigma Chi Road, NE, Albuquerque, NM 87131. Phone: (505) 277-1099.

Research team members: (1) **Hank C. Jenkins-Smith**, Ph.D., Director, UNM IPP and Professor of Political Science; (2) **Kerry G. Herron**, Ph.D., Associate Director for Security Studies, UNM IPP and Adjunct Professor of Political Science; (3) **Scott D. Hughes**, Ph.D. candidate and Research Associate, UNM IPP; (4) **Dennis M. Gormley**, President, The Blue Ridge Consulting Group, Arlington, VA; (5) **Thomas G. Mahnken**, Ph.D., Associate Professor of Strategy, U.S. Naval War College.

Funding for this project is provided by Sandia National Laboratories, Albuquerque, NM.

Research objectives include the following:

- (1) Compare perspectives among selected members of the U.S. security policy community regarding:  
(a) the evolving nature of the post-Cold War international security environment; (b) key U.S. and international security challenges for the Twenty-first Century; and (c) options for structuring and posturing U.S. nuclear weapons capabilities to meet post-Cold War security challenges.
- (2) Better understand elite perceptions of the role of the US general public in shaping US nuclear security policies.

### ***Protections for Interview Subjects***

- (1) Your interview will be recorded on audiotape and transcribed into text for analysis.
- (2) Information about your participation will be restricted to members of the research team. Codes will be used to protect your identity during transcription, analysis, and reporting.
- (3) No remarks will be attributed to you by name during analysis and reporting. Non-attributable quotes from your interview may be included in findings.
- (4) This research does not include classified information. Results will be reported in forms that are fully accessible by members of the general public. Results may be published in reports, articles, and/or books, and may be presented at professional conferences or other appropriate fora.

### ***Rights of Review and Withdrawal***

- (1) You will be afforded an opportunity to review the transcript of your interview prior to analysis and reporting.
- (2) You have the right to refuse to participate in this project or to withdraw prior to initial reporting.

\_\_\_\_\_  
(signature of interviewee)

Date: \_\_\_\_\_

\_\_\_\_\_  
(signature of interviewer)

## ***Annex B: Topical Outline Provided to Interviewees***

### **1. The Security Environment**

- Nature of the post-Cold War security environment
- Primary threats to US security today; next 20 years
- How to reduce the likelihood that nuclear weapons will be used
- Implications for US security policies

### **2. Evolving Nature of Nuclear Security**

- Role, importance, evolving nature of US nuclear deterrence
- Risks and benefits of US nuclear weapons today vs. Cold War
- Relationship of nuclear weapons to other weapons of mass destruction
- Relation of precision guided munitions to nuclear weapons
- Priorities and investment strategies for US nuclear capabilities
- Nuclear research and technology priorities

### **3. Arms Control and US Strategic Force Structure and Posture**

- Utility of START I and II; preferred shape of START III
- Utility of CTBT and prospects for a fissile material cutoff agreement
- Risks and benefits of de-alerting
- Recommended nuclear force structure and posture now; for next 20 years
- Minimum acceptable number of US nuclear weapons

### **4. Beliefs About Principles of Security**

- Political vs. economic vs. military dimensions of national power and security
- Are nuclear weapons a necessary component of US power, influence, and security? Why?
- Are nuclear weapons morally compatible with US values?
- Do nuclear weapons have other uses than deterrence? If so, what?
- What are the implications for US security of growing trends towards multilateralism?

### **5. Domestic Issues and the Role of the General Public in Security Policy**

- Role of the US public in security policy processes during the Cold War
- Capacity of US general public for understanding nuclear security issues and options
- Preferred role and level of US public involvement in post-Cold War strategic policy
- Nuclear abolition and the general public
- Strategies for influencing policy evolution

## ***Annex C: Interviewer's Guide***

### **Category 1: The International Security Environment**

- Nature of post-Cold War security environment
  - Today vs. Cold War
  - Future vs. today
- Primary threats to US security over the next 20 years
  - Russia
  - China
  - Certain regional powers such as Iraq and North Korea
  - Nuclear materials management and security
  - Proliferation of WMD
  - Information warfare
  - Terrorism
- What can the US do to minimize the likelihood that nuclear weapons and other weapons of mass destruction will be used?
- Implications for US security policies
- *Transition Questions:*
  - (1) Considering the international environment as a whole, how has international security changed since the end of the Cold War?
  - (2) Focusing more specifically on the US, how has US security changed since the end of the Cold War?

### **Category 2: Evolving Nature of Nuclear Security**

- Role, importance, evolving nature of US nuclear deterrence, including extended deterrence
  - Defense Science Board has expressed concern about erosion of US nuclear infrastructure (reduced operational readiness, training, inspections, planning, and career retention)
  - Quality of US nuclear infrastructure vs. credibility of nuclear deterrence
  - Relationship of how well we maintain US residual nuclear stockpile to effectiveness of nuclear deterrence
- Risks and benefits of nuclear weapons today (as compared to Cold War)
  - Threat to US from others' nuclear weapons today
  - Risks of maintaining the US nuclear arsenal
  - Benefits of US nuclear weapons today
- Relationship of nuclear weapons to other weapons of mass destruction
- Relationship of precision guided munitions to nuclear weapons
  - Credibility of nuclear weapons for deterring the following:
    - – Conventional attack against:

- The US homeland
  - US forces overseas
  - An ally of the US
- Chemical or biological attack against:
  - The US homeland
  - US forces overseas
  - An ally of the US
- Nuclear attack against:
  - The US homeland
  - US forces overseas
  - An ally of the US
- Extent to which PGMs can substitute for nuclear weapons for any or all of these missions
- Traditional nuclear missions that can be divested to PGMs
- Missions that must remain solely suited to US nuclear forces
- Investment strategy and priorities for nuclear capabilities
- Nuclear research and technology priorities
- *Transition Questions:*
  - (1) How important was nuclear deterrence in preventing nuclear conflict during the Cold War?
  - (2) How important are our nuclear weapons for preventing other countries from using nuclear weapons against us today?

### **Category 3: Arms Control and US Nuclear Force Structure and Posture**

- Utility of START I, START II
  - Confidence that Russians are dismantling in accordance with START II
  - Implications of Russian Duma's refusal to ratify START II
- Preferred shape of START III
  - How low should we go? (minimum acceptable number of US strategic nuclear weapons)
  - How should tactical nuclear weapons be dealt with?
- Utility of CTBT
  - Will the stockpile stewardship program keep the US nuclear arsenal reliable and safe?
  - Most problematic aspects of maintaining a nuclear stockpile without nuclear testing
- Likelihood and potential utility of a fissile material cutoff agreement
- Utility of de-alerting
  - Risks vs. benefits
  - Policy recommendations
- Given your expectations about the future, recommended nuclear force structure and posture for now and in next 20 years
  - Viability of triad

- Recommended alert posture
- *Transition Questions:*
  - (1) If mutual reductions in the number of US and Russian nuclear weapons are verifiable, to what approximate level would you be willing to reduce the number of US nuclear weapons?
  - (2) How important is it for the US to retain nuclear weapons today?

#### **Category 4: Beliefs About Principles of Security**

- Relationship of political, economic, and military dimensions of national power and national security
- Importance of US remaining a military superpower
- Are nuclear weapons a necessary component of US power, influence, and security? Why?
- Can nuclear weapons be reconciled with US values such as freedom, self-determination, respect for human rights?
- Do nuclear weapons have other uses than deterrence? If so, what?
- If deterrence fails, should US nuclear weapons ever be employed? Under what conditions?
- Is the international system of sovereign and independent states evolving into one in which international organizations and economic and military alliances are limiting national prerogatives? What are the implications for US national security? (unilateralism vs. multilateralism)
- *Transition Questions:*
  - (1) Are there any circumstances that would justify the employment of US nuclear weapons against another country?
  - (2) Is it feasible to eliminate all nuclear weapons worldwide in the next 25 years?

#### **Category 5: Domestic Issues and the Role of the General Public in Security Policy**

- Role of the public in security policy processes during Cold War
- Capacity of general public for understanding nuclear security issues and options
- Preferred role and level of involvement in post-Cold War strategic policy evolution
- Public acceptance of nuclear zero
- Role nuclear security issues are likely to play in the next national elections
- Expected strategies by abolitionists and by traditionalists for influencing the evolution of nuclear weapons policies

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## ***Volume II: Appendix Two***

### **Elite Focus Group**

**F**OCUS GROUPS ARE GUIDED DISCUSSIONS CONDUCTED IN SEMINAR environments that help us explore public perceptions and insights about policy issues. Involving up to ten individuals per session, focus groups allow interactions among participants that are not possible during individual interviews. When conducted with policy experts, focus group dynamics can illuminate issues, concerns, or levels of knowledge that help us design lines of inquiry and prioritize issues that can be examined more systematically with in-depth interviews of policy elites.

In support of this study series, we have conducted fifteen focus group discussions and two verbal protocol meetings in eight cities since 1993. For the 1999 phase of the study, we held one focus group discussion with security policy analysts in Washington, DC, and we conducted three focus group discussions with members of the general public in Boston, Dallas, and Portland. Results of the focus group discussion among policy experts are reported here. Results of the three focus groups with members of the general public are presented in Volume I, Appendix 2.

Our primary purpose in conducting the focus group among policy analysts was to informally explore key topics, concepts, and issue relationships with a panel of security policy experts. We used these discussions to construct a topical guide for our individual interviews with policy elites.

We recorded all focus group discussions on video and audiotapes that were used to produce a verbatim transcript of each session. Two members of the research team separately coded each transcript using complementary techniques and rules but following two distinct coding paths.

- Coding path "A" was top-down, following a traditional hypothetical-deductive process in which we used theory, related hypotheses, and

primarily deductive reasoning to code text units in accordance with our theoretical framework presented in Chapter One.

- For coding path “B,” we employed bottom-up grounded theory techniques to code text units based on frequency of occurrence. We then grouped topics and explored relationships among subjects using primarily inductive reasoning.

We entered results from each of these two separate coding paths independently into a software titled QSR NUD\*IST 4.0 (Qualitative Solutions Research: Non-numerical Unstructured Data Indexing, Searching, and Theorizing, 4.0).<sup>1</sup> Our analysis of separate results from each coding path were then combined and reconciled to yield the findings discussed below.

## Section A2.1: Participants

**O**UR OBJECTIVES FOR THE FOCUS GROUP COMPOSED OF MEMBERS OF THE US security policy community were twofold. First, we wanted to use the discussions to help shape and prioritize the topical guidelines to be used in conducting individual in-depth interviews with fifty policy elites. Second, we wanted to compare and contrast perceptions, levels of knowledge, and policy preferences between members of the security policy community and members of the general public from different geographical regions.

As opposed to demographic criteria used in choosing participants for our general public focus groups, selection criteria for the policy elite group emphasized professional experience, institutional affiliation, and expected policy perspectives. We sought to include viewpoints about nuclear security policy ranging from strongly abolitionist to strongly traditionalist. We also sought to include professional affiliations with analytical groups, nongovernmental organizations, and the military, and to include a wide spectrum of security policy experiences. All participants were college-educated white males in their middle years earning professional level incomes. Because qualifications are important in gauging the range and credibility of expert input, participants are listed by name and position below. However, no attribution is made linking any commentary to any participant.

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<sup>1</sup> See Gahan and Hannibal, 1998, for a description of using QSR NUD\*IST 4.0 for qualitative research.



**Washington, DC, May 6, 1999**

<b>Name</b>	<b>Position</b>
Frank J. Cilluffo	Senior Policy Analyst, Center for Strategic & International Studies
Charles D. Ferguson, II	Senior Research Analyst, Federation of American Scientists
Daryl G. Kimball	Executive Director, Coalition to Reduce Nuclear Dangers
Sven F. Kraemer	President, Global Challenge 2000
John Macartney	Professor, School of International Service, American University
Matthew McKinzie	Analyst, Natural Resources Defense Council
K. Scott McMahon	Defense Policy Analyst, Pacific Sierra Research Corporation
Robert E. Mullins	International Policy Analyst, RAND
Bernard C. Victory	Senior Research Analyst, National Institute for Public Policy
Frank Wolf	Lieutenant Colonel, USAF, National War College

## **Section A2.2: Security Environment and Threats to US Security**

**G**IVEN THE RANGE OF VIEWS AND DYNAMICS THAT ARE AT PLAY IN focus group discussions, we can best give the reader a feel for the tone and nature of conversational exchanges in group settings by selectively choosing illustrative passages of actual commentary. The goals of a good group discussion do not include attempting to reach consensus. Rather than generalizing too broadly about shared views, we choose to let selected commentaries illustrate differing perspectives without implying that they represent group agreement.

Participants were almost unanimous in their assessment that the primary attribute of the current international security environment is the lack of a central organizing principal. However, views were more divided about whether the current environment presents greater risks and threats to US security, or whether it presents qualitatively different, but not necessarily worse threats. Some thought the post-Cold War environment brought new

opportunities for reducing nuclear dangers. General impressions are represented by the following perspectives from four different participants:<sup>2</sup>

R-1: *If I could suggest one word that kind of captures the environment, it would be uncertainty or chaos. ... I think we've exchanged the one huge Cold War threat for a whole host of threats that, when aggregated together, are about as bad as the Cold War, but are completely different in nature.*

R-2: *I think it's a lot worse than uncertain. I think it's deteriorating and getting worse, and that we can predict some things that are fairly certain, including that it will get worse rather than better, or certainly worse before it gets better. ...lowest common denominator enforcement policies of any and all arms control treaties means that criminals and rogues and those who protect the rogues or work with them, including, for example, some in Beijing and Moscow, are considered our strategic partners. The system is out of control in the sense of verifiable enforcement of any kind of confident system for controlling those who want to abuse the system. ... We have no national strategy that gives us confidence in being effective in controlling these things.*

R-3: *I suppose the irony with regard to nuclear security is that we've entered a largely unipolar world with respect to conventional forces and economic power, but not with respect to nuclear forces. That has produced a greater Russian reliance, at least in rhetoric, on their remaining nuclear forces, but at the same time, the situation in Kosovo has shown how a still robust strategic deterrent can have very little effect on a regional security issue.*

R-4: *I would say the threats are not necessarily worse; they're different ... I think it's difficult for anyone to try to get their minds around dealing with these different threats, and part of the difficulty is that the objectives are different. ... I would say that one of the major implications is that, in addition to other measures, there has to be a renewed emphasis on preventing certain risks from emerging in the first place, making sure*

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<sup>2</sup> To preserve the nonattribution guarantee afforded members of the policy elite focus group, the letter "R" is used to indicate a respondent, and numerals are used to indicate different respondents. The numbers do not correspond in any way to the order of the participants previously listed.

*that there is not a fall-back to some of the risks that we saw during the Cold War years.*

Primary security concerns among discussants included the following subjects (order of listing does not imply priority):

- Russian nuclear resources
- Chinese strategic modernization
- Nuclear proliferation
- Terrorism
- US posture and commitments

### **Russian Nuclear Resources**

Participants were concerned that deteriorating economic conditions in Russia are threatening the security and control of Russian nuclear assets, and some expressed doubts about funding from the Nunn-Lugar legislation or other forms of US economic assistance being used for intended purposes. Also, some participants expressed uncertainty about the future direction of political processes in Russia. Cautious views about Russia are illustrated in the following quotes from two participants:

*R-1: I agree that there are going to be many more nuclear powers, but we still have to spend most of our time and attention on Russia, because that's the one country on earth that can still eliminate us in thirty minutes.*

*R-2: [In Russia] there are twenty thousand or more, maybe thirty thousand, tactical nuclear weapons and seven to eight thousand strategic nuclear weapons. They are not known to be dismantling; we are certainly not confident that they are dismantling tactical units when they say that they are, and they don't seem to be dismantling strategic nuclear warheads.*

Members were not optimistic about the future of arms control between Russia and the US, with some questioning whether formal arms control proc-

esses have been overcome by events. One critic of US nuclear weapons policy made the following observations:

*In my perspective, there is overwhelming evidence, at least in unclassified circles, that the Russian strategic weapons are deteriorating as a result of lack of funds to maintain them. ... The early warning has deteriorated and also their weapons, and the best prediction I've read puts them at about a thousand weapons or so by 2010 if there's not a significant influx of money into their strategic weapons systems. ...we should recognize that and seek to attrit our weapons as well, irrespective of START II or START III.*

### **Chinese Strategic Modernization**

While there was consensus that Chinese nuclear forces are being upgraded, there were differences of opinion about the rationale for the upgrades and their implications for the US. One more pessimistic view of Chinese modernization was expressed as follows:

*Nuclear weapons seem to be of great interest to Iraq, Iran, North Korea, possibly Libya, and certainly to China, which is modernizing its forces apace. They are going well beyond the CSS4 [Dong Feng-5/5A], which can already reach us. They're going truck mobile with their missiles, and those are the nuclear warhead missiles. ... I just came back from China in November [1998] from talking with their military, and they are absolutely bent on a path, even when they're trying to be very nice and friendly and peaceful, of strategic modernization.*

The following perspective of Chinese modernization was quite different:

*You can argue that it [strategic modernization] actually is a good thing for China; it can actually enhance strategic stability. They are supposedly replacing their Dong Feng-3 missiles, which aren't mobile and are liquid fueled, with solid fuel mobile missiles. They're also going to replace their twenty or so ICBMs, the Dong Feng-5A, with Dong Feng-31 and Dong Feng-41 vehicles which will be mobile and solid fueled. Now as long as they don't MIRV those missiles...I believe they would be much more secure in their*

*stated no-first-use policy. ... As long as they don't increase the number of missiles...the Chinese will be securing a minimal deterrent position, but would not have the nuclear war fighting first strike capability...it could be strategically enhancing by adding some stability in China.*

## **Nuclear Proliferation**

All participants in the elite group thought further nuclear proliferation should be prevented to the extent possible. However, there were very different perspectives about the causes of nuclear proliferation. Some argued that states seek nuclear weapons for their own nationalistic reasons, and are not likely to be prevented by US strategic policy. Others were of the opinion that policies of the declared nuclear weapon states, particularly the US, are directly related to the prospects of further nuclear proliferation. The two views are contrasted in the following dialogue between two participants:

*R-1: I just want to make the point that whatever the deterrent value against the use against the US, it seems to have the opposite effect in terms of development. US deterrence spurs other states to develop their own weapons of mass destruction.*

*R-2: I do not believe that; they develop these weapons for their own perceived security needs, which are usually based on regional rhyme or reason or actions and not on anything that we or the Russians do.*

*R-1: I believe that in the calculus of Russia and of China and, in the end, of North Korea and Iraq, the US nuclear deterrent plays a key role in their decision to pursue a deterrent, not necessarily matching warhead for warhead, but simply having a deterrent because the US has one; having a nuclear weapon because the US has one.*

*R-2: Nuclear weapons do two things for those countries. America is part of the calculus, but not because of our strategic capabilities. I think it's to offset our conventional superiority and to coerce us, to keep us out of there.*

## Terrorism

The use of weapons of mass destruction in terrorist actions was considered a current threat to US and international security. While the discussion was not extensive, the following passage illustrates concerns expressed:

*In the counterterrorism realm...you are seeing a change both in terms of motives and in terms of capabilities. What's new is not terrorism, of course, which has been around forever, but the availability of advanced technologies and capabilities and the fact that we have a number of groups that don't necessarily want to get to the negotiating table, but want to blow that table up altogether.... So the threshold for casualties is a concern...while nuclear and radiological threats are issues, chemical and biological threats are a bigger concern in terms of policies.*

## US Posture and Commitments

Several focus group members expressed particular concern about how US security interests and commitments are evolving in the post-Cold War environment. Comments from two participants, shown below, illustrate the range of views:

*R-1: We're sitting astride a transitional period, a period of fluidity, and we have had a very reactive foreign defense policy. In part that's because of the fluid environment, and we're trying to shift from one strategic security era into a new one.... I think one of the major issues facing this country is: are the American people and the political establishment...willing to make a very long-term commitment to US leadership to the extent we ensure that we can have whatever influence we can bring to bear on the emerging international security environment? If you look at the numbers of commitments, including hot wars, in which we've been involved in recent years...I begin to question how long the American people are going to support us even attempting to...get out of this world disorder we've gotten into. So I think one of the major things facing us in the international environment is our own willingness to lead and willingness to come to terms with the limitations of what we can do as well.*

R-2: *One of the things that complicates US security policies is what I perceive to be power projection capabilities that are incompatible, especially at the low intensity conflict level, as we're seeing right now in Kosovo. Our force structure choices that we've made in the Gulf War paradigm in the nineties have not actually facilitated the achievement of our goals.... We have an incompatible power projection capability at the low intensity level, but I don't perceive that to be incompatible at the mid to high intensity levels in major theater conflicts.*

### **Section A2.3: Relevance of Nuclear Weapons**

We asked participants address the continuing relevance of nuclear weapons in the post-Cold War environment. Though they differed substantially, participants discussed the utility of nuclear weapons for deterring other nuclear weapons and for deterring chemical and biological weapons. They also commented on the potential for precision guided munitions to replace nuclear weapons for some purposes.

#### **Deterring the Use of Nuclear Weapons**

Members who perceived a declining role for strategic nuclear deterrence thought that because of the changed security environment, nuclear weapons were less useful, and that their role in deterring others' nuclear weapons was less important today than during the Cold War. In light of diminishing Russian nuclear capabilities and the limited nuclear threat that China currently poses to the United States, some discussants argued that nuclear weapons and strategic deterrence were becoming much less relevant for US security. The following two quotes from the same participant (provided at different points in the discussion) illustrate this perspective.

*They [nuclear weapons] certainly have less saliency. I don't think there is one event or crisis that was seen in the last decade since the end of the Cold War in which nuclear weapons were seriously considered, even in the Iraq War.*

*If we look at the international security environment now, there is the potential, if US relations with Russia and China do not deteriorate*

*(or, in the case of Russia, return to what it was), to change the dynamics of that. There is not this mutual threat. But, in other cases, I cannot see how forward deployed US nuclear weapons or US nuclear weapons on submarines could be, would be, or should be used in any sort of conflict, even to deter chemical and biological weapons.*

But others considered nuclear weapons to provide a continuing utility in offsetting others nuclear capabilities. These members contended that Russian nuclear weapons still pose a mortal threat to the United States, and that Chinese nuclear modernization efforts mean that the US will need to rely on strategic nuclear deterrence for the foreseeable future. The following exchange illustrates these arguments.

*R-1: The issue is that there is still a stabilizing impact in our having that power in terms of deterrence, and we do have people coming up on the horizon that are going to be using these weapons. We may not have the deep penetrator systems to knock them out if they are underground, and we may not have the intelligence and overheads to find mobiles [mobile missiles]. I am very much worried about the fact that the Chinese have mobiles or are going to mobiles, the Russians have mobiles, and we have none. Ours are sitting ducks. That's an asymmetry.*

*R-2: Nuclear weapons are the threat that leaves something to chance out there...your question was: Are US nuclear weapons relevant to the security environment? I think that they are. ... Probably most rogues in other countries are not suicidal, and nuclear weapons will be a factor in their decision making during a crisis when they consider options in the weapons of mass destruction area. To that extent, there is deterrent value to a [nuclear] force of some type. I do think, however, that it can be significantly smaller than it is today to achieve that objective. What we need is a very secure, credible deterrent, significantly smaller than it is today.*

One participant recalled recent exchanges with foreign military officers that indicated they continued to value US extended nuclear deterrence.

*I can tell you where they [US nuclear weapons] are doing some good, and that's a little bit to my surprise. [In an exchange with a number of foreign military officers earlier this year] they were quick*



*to point out that, at least in their views, and especially the Europeans, some nations still consider that the American nuclear deterrent, the umbrella, still applies. And you're talking about countries like Germany, Japan, and South Korea that could develop an independent nuclear weapon capability in a matter of months. They have the money; they have the technology; and they are facing a threat. They choose not to do so because of the protection afforded to them by our deterrent. If we go down to the number of two hundred [strategic nuclear weapons] or lower, as some people suggest, they may well decide that the umbrella doesn't exist anymore and go ahead and develop the capability on their own.*

## **Deterring Biological and Chemical Weapons**

Most participants were skeptical of the efficacy of deterring other mass casualty weapons with nuclear weapons because of accountability issues and the precedent that the employment of nuclear weapons would set, but others commented on the hypothetical use of US nuclear weapons to deter or retaliate to the use of biological or chemical weapons by North Korea as illustrated in the following exchange.

*R-1: If North Korea uses chemical and biological weapons in the opening phase of an invasion—which is most likely going to happen—what do we do? Do we respond with chemical and biological weapons? Probably not.*

*R-2: Definitely not. We don't have them.*

*R-1: Do we use nuclear weapons? Well, that's the big question in North Korea. Will they respond with nuclear weapons? The North Korean literature suggests no, they won't.*

*R-2: We won't.*

*R-1: You suggest that the United States won't. Why? Because if we actually used nuclear weapons against North Korea, a non-nuclear country, then we're violating an international treaty, and then there's the perception of being the victim. ...they're using chemical and biological weapons as a force equalizer, and why should the United*

*States use nuclear weapons in response, especially if the use is limited to Republic of Korea forces, not US forces. So, there [are] a lot of things to be discussed here on nuclear issues.*

The following section elaborates further on the issue of whether nuclear deterrence has any utility against state-sponsored biological or chemical attacks directed against either the United States homeland or military forces abroad.

R-1: *Yes; I'd rather have them than not have them.*

R-2: *Unknowable.*

R-3: *I think yes.*

Moderator: How about U.S. forces in the field, elsewhere?

R-2: *For state sponsored threats, there's some deterrent value.*

R-4: *Some, yes.*

R-3: *Because we don't have response capabilities in either chemical or biological weapons.*

R-5: *Determining state sponsorship, depending upon delivery...there are some [deterrent values]....*

## **Role of Precision Guided Munitions**

Views expressed about the substitutability of precision guided munitions (PGMs) for nuclear weapons as a deterrent concentrated on differences in the destructive capacity of both systems. Although participants overwhelmingly rejected the idea of widespread substitutability of PGMs for nuclear weapons as a deterrent, most agreed that there is some replacement value of PGMs for nuclear weapons because PGMs are usable in ways that nuclear weapons are not.

R-1: *...we have developed an impressive conventional capability with precision guided munitions. We're now talking about probability of kill within a 400 meter by 400 meter footprint. It's pretty impressive. Where nuclear weapons come into play is on the other side of the equation, where Russia knows—and I'm just using Russia as an example—that they can never compete with us on a conventional level, especially with the deterioration in their military. So they use the tactical nuclear weapon card not as a force multiplier, but a force equalizer. So I do believe that nuclear weapons are still relevant, and they still have utility, probably in the deterrent realm.*

R-2: *I think precision weapons have some replacement value in some of these areas you are suggesting, but it's easily overdrawn.*

R-3: *You can use them [PGMs].*

R-4: *They have a defense use, but I don't know if they have much deterrent value, because, in a way, it's like what we're doing in Kosovo. We can hit you a little, and that's not very threatening.*

R-5: *First of all, I want to disassociate myself from the notion that nuclear weapons don't deter attack on the US homeland. I believe they do. ... As to the precision guided munitions, if you bomb a CW or BW depot or factory, most likely you're going to spread stuff, and that, in fact, is what occurred in Iraq. One of the potential sources of the Gulf War syndrome [involved] weapons that were bombed in a depot by us, and that spread...all over. I believe if we had a small nuclear weapon that would fry the stuff, [then] you wouldn't spread it. ...I believe that the contamination that you get, and the extra spreading and extra risk that you have by knocking out a place like that with conventional weapons actually increases the risk, whereas that might not be the case with a nuclear weapon. ...there are also enhanced radiation weapons, which as far as I know, don't have much fallout, and they last for a very short time.*

R-6: *[Weapons effects] that last for a very short time?*

R-5: *But can it [PGMs] blow up the chemical and biological stuff without spreading it? ... I'm just raising the question. I happen to think that's an alternative approach....*

## **Section A2.4: US Nuclear Force Structure and Posture**

As expected, views about US strategic forces among security policy analysts were much more sharply defined and differentiated than were the views of the general public focus groups discussed in Volume I. Members of the policy elite group who preferred a reduced role for nuclear weapons and those who considered nuclear weapons to be the continuing foundation on which US security rests expressed distinctly different views about the size and posture and infrastructure requirements of US nuclear forces. Views are contrasted below on the following key topics:

- Nuclear force size and alert posture
- Strategic arms control
- Nuclear infrastructure
- National missile defenses

### **Nuclear Force Size and Alert Posture**

Views about how many nuclear weapons the US should maintain and how they should be postured were dominated by two competing concepts about the future of nuclear security. For those participants who considered nuclear weapons to pose unacceptable risks to the security and safety of the world, deep reductions in the US and other nuclear arsenals leading to eventual elimination of all nuclear weapons was the defining context within which numerical issues were framed. Preferences for sharply lower numbers of nuclear weapons were complimented by preferences for de-alerting.

In contrast, those participants who considered nuclear deterrence to have been a primary reason why the Cold War did not lead to nuclear war were much more cautious about making deep numerical reductions and about reducing alert postures. While acknowledging that post-Cold War changes in the international security environment warrant a smaller US arsenal than that maintained during the Cold War, they took a more conservative and cautious approach to how rapidly and to what minimum numbers US strategic forces should be reduced. Most considered de-alerting to be a risky experiment that could lead to greater rather than lesser dangers.

Views about requisite numbers of nuclear weapons are illustrated by the following comments. (Less relevant passages have been omitted.)

R-1: *In the short-term, if there was adequate intelligence that there was some Russian compliance, but not necessarily ratification of START II, going to a thousand [strategic nuclear weapons] or somewhat lower than a thousand would be adequate to satisfy our national security requirements. And then eventually going to below five hundred would be in the interests of the US.*

R-2: *When we talk about numbers, we get this eyeball glazing, and we go around in circles. The disease, in my opinion, is our nuclear guidance, our nuclear policy. And what is our nuclear policy? It's counterforce, and it's that we target Russia's nuclear weapons, because we're in a weapon-rich environment right now. ... I agree that I would go down to a thousand, and I think we can do it near-term, but a thousand is key, because [my colleagues and] I believe that we can show that once you go down to a thousand, the US cannot target all the Russian warheads. If there's a thousand strategic warheads on each side, it's mathematically impossible to target all the other side's nuclear warheads.*

R-3: *I agree that we need a much smaller force, but what is it for? I think first we ought to ask, rather than what the Russians have, etc, what is it [the US nuclear arsenal] for in the 21<sup>st</sup> Century? That should be a point of discussion.*

R-4: *If you want to reduce nuclear arms, you have to decrease the incentive for cheating which comes when you go down. If we went down to two hundred [strategic nuclear weapons], the guy that's building ten or twenty has a hell of a lot more leverage than if we were at a thousand, obviously, and the lower we go, the more likely it is that a cheater would have the incentive to cheat—and don't tell me there aren't cheaters.*

R-3: *It gets very complicated with the future so uncertain. That's why I was asking what is the purpose of that smaller arsenal. It seems to me that a deterrent value comes out of, at the very least, being able to put some combination of several hundred—pick your number—weapons on any potential adversary's territory. And if it's one adversary, you want to have several hundred weapons, which is*

*a very low arsenal. If it's a combination of adversaries, that's a larger arsenal, but it gets down to the question of how much is enough for deterrence. The reason I come to several hundred—maybe it's 500, or maybe it's 200—is just reading studies about limited exchanges between the US and Russia. [We've] done a lot of weapons effects work, and two or three hundred weapons placed on Russia or the US would cause either country to go back to a preindustrial age. If the thought of that isn't enough to deter a leader of either country, then I think they are not deterrable.*

Views about de-alerting are illustrated in the following excerpts:

*R-1: Should we de-alert nuclear weapons? I believe we should, and so I think we should think about any way we can to safely de-alert on a bilateral basis and ratchet down the nuclear hair trigger.*

*R-2: To talk about de-targeting or de-alerting or no-first-use as being meaningful constraints on the fellow or country or rogue that uses vocabulary easily and cheats routinely is not very encouraging if you place confidence in that, because those are no-cost statements; they are meaningless.*

*R-3: De-targeting is a pile of baloney; de-targeting is public relations. De-alerting is very different.*

*R-4: Why don't we have very small alerted forces? I mean, that's where we can get to.*

*R-5: There's a school of thought that says that's more stabilizing than this de-alerting option, because you can get yourself very easily into a 1914 mobilization race if you have two sides who are de-alerted get to a crisis. None of us want to go there.*

*R-6: If you de-alert weapons at sea, how can you be sure that they will be in that status? You can verify that they're de-alerted, and you can verify that after eighteen hours ours certainly will be on line, but that's something we don't want to risk our national security on.*

*R-3: I'm not comfortable with the fact that there are thousands of Russian missiles that are being controlled by commanders who are*

*not getting fed, and that are being guided by a committee control system that is blind for many hours of the day. That's a very unstable situation. One way to approach that is to take these weapons off alert, so that if there is an accident, there is time to deal with it, or there is time to deal with it so there isn't an accident.*

## **Strategic Arms Control**

The discussion about strategic arms control was closely intertwined with the consideration of numbers of nuclear weapons. The group questioned the continued viability of the START process, with some participants suggesting that the bilateral strategic arms control model that evolved between the US and the USSR in the Cold War has questionable relevancy in today's environment. Most considered START II to be hopelessly bogged down in the Duma, and preferred to consider the nature of potential future initiatives.<sup>3</sup> Some of the dialogue about arms control is provided below. (Less relevant passages have been omitted.)

*R-1: I'd like to consider the question: is traditional nuclear arms control dead? [I'm referring to] the traditional sense of sitting down with Russia or the former Soviet Union and having it out in a bilateral talk, whether it be SALT I or II or START I, II, or III. That just seems stalled; it has been stuck in the mud for years now.... Do we pursue unilateral reciprocal measures similar to the Bush-Gorbachev initiatives? Do we try some other different approach we haven't even thought of before?*

*R-2: If you're going to talk about what is stabilizing, then you have to talk about very effective arms control, which means that you can see the destruction of the warheads and the missiles, and you have parliaments that look at it and a free press that looks relatively well at what's going on inside a country. You don't have any of that in China, almost none of it in Russia, and you don't have it in North Korea, Libya, Syria, Iraq, Iran, and so on. If it's just a pipe dream, or if it's that difficult to really achieve something that gives you confidence, then you're going to have to think about what deters, and that means maintaining some kind of [nuclear] stockpile and*

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<sup>3</sup> At the time of this focus group, the START II Treaty had been under consideration by the Russian Duma for several years. It subsequently was ratified on April 14, 2000.

*having some forces that have at least credible inhibiting effects on rogues who don't quite know what they might face.*

*R-3: I think that the US now is hung-up on dual ratification of START II, and is not focused enough on the danger that accidental nuclear war presents, and that, given the trend now (which doesn't seem to be reversing in Russian strategic forces) we can, in the near-term, aim at on the order of a thousand strategic weapons. ... It seems inevitable that the Russian nuclear arsenal, the number of operational strategic weapons that represents a threat to the US, is going to fall to something on the order of a thousand by the year 2010.*

*R-4: By attrition?*

*R-3: By attrition; and we should recognize that and seek to attrit our weapons as well, irrespective of START II or START III. We should read the handwriting on the wall and go to lower levels which represent a safeguard, a measure of added protection against the threat of accidental nuclear war.*

*R-5: As the political relationship matures between the two countries [US and Russia], I think legitimate verifiable arms control will be a consequence.*

## **Nuclear Infrastructure**

Participants exhibited differing perspectives about nuclear infrastructure and stockpile stewardship. One perspective evidenced concern that US nuclear infrastructure is suffering from lack of testing and lower levels of priorities.

*R-1: What we need is a very secure, credible deterrent, significantly smaller than it is today, and...I think one of the things that we haven't discussed thus far is whether that relevance is still going to remain ten, fifteen, twenty years down the road in a non-testing environment. What will the credibility of those weapons be in a no testing environment? In addition, the career path for the strategic nuclear forces is basically...not a career path at all anymore.*

*R-2: The DOE people have really taken it on the chin. That's true.*



*R-1: The scientists and computer people, maintaining the stockpile, operationalizing whatever doctrine is to be had, and exercising—I think all those things are dropping, drawing down significantly, and it's an issue for our consideration. How relevant is a stockpile going to be down the road in that type of environment?*

Others expressed more concern about Russian nuclear infrastructure than about US infrastructure, as shown by the following comment.

*...there's no deterrence without assured second strike, and the situation we're evolving to is one where the Russians will have no assured second strike, because their forces are deteriorating through attrition, whereas US forces remain robust, and that's going to represent instability in the future.*

And at least one participant was highly critical of stockpile stewardship.

*Right now, stockpile stewardship is a cost-benefit calculus. When you have on the order of ten thousand warheads in the arsenal, they have to be maintained. The Department of Energy has to maintain them. It's argued that it's a plus to study the hell out of these warheads as they age and to make a decision in the future to replace and increment as needed. But if you shift down to a thousand warheads, then you could just reproduce components to their prior test certified specifications on a regular basis, and that can supplant the old testing and certification process that was part of the Cold War.*

But one participant was particularly skeptical of using computer simulations to replace testing over the long term.

*The illusion that you can do everything with computers, for example test nuclear weapons—I'd like to see a medical program that tested medicines on computers. At some point computers cannot do everything, so how are you going to have the slightest real confidence in these systems? ... If this is just people sitting at computers, and they're very young, and they don't understand the tragedy of nuclear weapons, the tragic elements of history, they're going to be really up the creek in a few years with lack of experience, expertise, and philosophical interest.....*

## National Missile Defenses

Discussion of national missile defenses split along predictable lines. A sample of the dialogue follows. (Less relevant passages have been omitted.)

R-1: *...probably the single best recent arms control initiative that was taken was that of President Reagan on strategic defense. ... My answer to the stalemate in START, which is unfortunately related to the ABM treaty because of a linkage that both the Russians and our administration have put on it, is a breakout from both the ABM treaty and START. Have a new deal where you have some kind of... mixed defense and offense and you try to get some total number that might be two thousand [strategic nuclear weapons] or one thousand or so on, and one could sell that as a great arms control measure. ...we should be talking possibly about START II and START IV, linked to permission to deploy some limited national defenses and get out of the notion that the ABM treaty is the cornerstone of strategic stability, which is nonsense. Among others, the Chinese, the Iraqis, and the Iranians haven't signed it. It is based on mutual assured destruction doctrine.*

R-2: *Whereas offense was the name of the game, now maybe there's a need to shift to defense, whether that's early warning or missile defense, or whatever it is.*

R-3: *A long-range pipe dream would be a beautiful thing if it weren't a pipe dream, which it is in that we still can't hit a bullet with a bullet. And even after we can hit a bullet with a bullet, there are a lot of Ryder trucks out there, and a lot of suitcases, and there are a lot of ways in which we're going to find enemies who can find a way around it. ...the pursuit of missile defenses at this moment is promoting the pursuit of offensive nuclear weapons by our old adversaries, and we have to figure out some way to deal with that if we're ever going to pursue missile defenses.*

R-1: *Let them have missile defenses if they want them.*

R-4: *Missile defenses, I believe, can preclude going down to very low levels in nuclear arms; it can preclude deep reductions.*

R-5: *Isn't it proven that the average American thinks that we're defended against nuclear attack? When you tell them that we're not, they're shocked and they want missile defense.*<sup>4</sup>

## Section A2.5: Security Policy Processes and the Public

We began our discussion about the role of the US general public in security policy processes by asking respondents to react to a premise. We noted that much of current US nuclear security policy was developed under the exigencies associated first with ending World War II and then with the conditions prevailing in the nuclear arms race with the USSR. Also, we observed that the traditional model for nuclear security policy processes became one in which a relatively small number of people determined nuclear strategy and policies. Because of the complexities of the issues and the secrecy surrounding many of them, the general public was somewhat less actively involved than in many other areas of public policy. We asked participants whether they thought the public's role in evolving nuclear security policy in the post-Cold War environment should be different, and if so, how they would like to see the policy process change. Following are excerpts of the resulting discussion. (Less relevant passages have been omitted.)

R-1: *What we're lacking is not the fact that the people aren't ready to come in; the people aren't ready to come in because there's nothing to tell them that the cupboard's empty. The military is spread so damn thin all over the place, reacting to [contingencies] that the DoD is starting to sound like the Red Cross.*

R-2: *There's never been a public debate [about nuclear security policy] since August of 1941.*

R-3: *How about the freeze debate; remember all the people on the streets about that?*

R-4: *It's dead right now though, since the freeze.*

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<sup>4</sup> In our 1999 survey of the US general public, we asked respondents whether the US currently has a defensive system for shooting down long-range ballistic missiles that have been launched against the US homeland. Only 26 percent of respondents were aware that the US does not currently have such a defensive system. See Volume I, Chapter Four, pp. 53-61 for a discussion of responses to nine questions asked about national missile defenses.

R-5: *Since the end of the Cold War, the American people have turned away generally from defense and foreign policies. They're sitting fat, dumb, and happy.*

R-4: *They're under the impression that we've gotten rid of nuclear weapons.*

R-5: *They have a role in electing their congressmen and representatives. Does the public have any different role in deciding how many aircraft carriers to buy [than they do in setting nuclear policies]?*

R-1: *They do, because there are more jobs, depending upon whether you're talking New Mexico and lab country, or whether you're talking about Virginia and Connecticut. I don't think it [nuclear security policy] will ever come up in any congressional debate in a race in the home state. I couldn't see that issue as a primary issue outside of the single issues that are extreme on one side or the other.*

R-6: *There are many reasons why the public is less involved today in these issues, but during the Cold War era, the culture of secrecy went so far that it did lead to an ignorance about the effects of the nuclear infrastructure on the American people that the nuclear weapons establishment is paying a big price for today. And that culture of secrecy still does pervade in many aspects of the policy debate. If it's to change...there should be a more open consideration of these long-range nuclear policy implications. The committees on the Hill were closed, and they still are. The policy circles here in Washington are very small and insular. ... It [prospects for change] depends on the public's interest in the issue, and it depends, in part, on how the leaders in the country—Congress, the administration, the media—lead, in the sense that they have to try to engage. I don't think that there has been a big shift in policy makers' views about power and whether the public should be engaged in these questions. We started off this discussion in an interesting way by bemoaning the fact that the public is not very engaged in foreign affairs issues, and this is a time when it certainly should be, because there are some historic shifts going on now.*

R-7: *We can expect several things that will draw attention. The public doesn't want to know about any defense issues unless there are casualties, or unless the costs become too obvious. ... The pri-*

*many things that are going to happen is that the current delusions about the post-Cold War peace will fade as some fairly drastic events, including some mini-Pearl Harbors, occur.*

*R-8: My experience is that, at least in the past few years, it's not as if there's some steady state of public awareness of nuclear weapons issues. It spikes, and it's tied to specific issues.*

*R-3: The public will be involved when they see this political maturation between us and Russia. And as they see that, then intuitively they will understand that we can go to lower levels, reciprocally, in a measured and balanced way.*

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## Glossary of Acronyms

ABM	antiballistic missile
ALCM	air launched cruise missile
BCSIA	Belfer Center for Science and International Affairs (Harvard University)
CBW	chemical and/or biological weapons
CDC	Centers for Disease Control
CIA	Central Intelligence Agency
COP	central organizing principle
CTBT	Comprehensive Test Ban Treaty
DoD	Department of Defense
DOE	Department of Energy
DTRA	Defense Threat Reduction Agency
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GDP	gross domestic product
GNP	gross national product
ICBM	intercontinental ballistic missile
INF	Intermediate-Range Nuclear Forces
MAD	mutual assured destruction
MIRV	multiple independently targeted reentry vehicle
MX	Peacekeeper missile
NATO	North Atlantic Treaty Organization
NBC	nuclear, biological, or chemical
NGO	nongovernmental organization
NMD	national missile defense
NPT	Nuclear Non-Proliferation Treaty
OSHA	Occupational Safety and Health Administration
PAL	permissive action link
PDD	Presidential Decision Directive
PGM	precision guided munition
PRC	People's Republic of China

RAND	Research and Development Corporation
RV	reentry vehicle
SALT	Strategic Arms Limitation Talks
SDI	strategic defense initiative
SIOP	Single Integrated Operational Plan
SLBM	submarine-launched ballistic missile
SLCM	sea-launched cruise missile
SSBN	nuclear-powered ballistic missile submarine
START	Strategic Arms Reduction Talks/Treaty
TMD	theater missile defense
UAE	United Arab Emirates
UN	United Nations
UNSCOM	United Nations Special Commission on Iraq
USAF	United States Air Force
USN	United States Navy
WMD	weapons of mass destruction



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